OTTER CREEK STATE PARK

OTTER CREEK - NEW RESTROOMS

CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2006	National Electrical Code	2005
International Mechanical Code	2006	Uniform Code for	
International Plumbing Code	2006	Building Conservation	N/A
International Fire Code	2006	ADA Accessibility	
International Energy		Guildelines	2003
Conservation Code	2006		

A. Occupancy and Group: U (UTILITY + MISCELLANEOUS)

Change in Use: Yes _____ No X Mixed Occupancy: Yes _____ No X

Special Use and Occupancy (e.g. High Rise, Covered Mall): N/A

B. Seismic Design Category: D Design Wind Speed: 90 mph

C. Type of Construction (circle one):

I/A I/B II/A II/B III/A III/B IV/HT V/A (V/B)

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: 0 South: 0 East: 0 West: 0

E. Mixed Occupancies: N/A Nonseparated Uses: N/A

F: Sprinklers:

Required: NO Provided: N/A Type of Sprinkler System: N/A

G: Number of Stories: 1 Building Height: 15-9"

H: Actual Area per Floor (square feet): 919 SF.

I: Tabular Area: 5500 SQ. FT.

J: Area Modifications:

N/A

a) $A_a = A_t + \left[\frac{A_t I_t}{100}\right] + \left[\frac{A_t I_s}{100}\right]$ $I_t = 100 \left[\frac{F}{P} - 0.25\right] \frac{W}{30}$

b) Sum of the Ratio Calculations for Mixed Occupancies:

N/A

Actual Area / Allowable Area ≤ 1

N/A

c) Total Allowable Area for:

1) One Story: _____

2) Two Story: A_a (2) _____

3) Three Story: A_a (3) _____

d) Unlimited Area Building: Yes _____ No X Code Section: N/A

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0		Floors - Ceiling Floors	N/A	
Interior Bearing Walls	0		Roofs - Ceiling Roofs	N/A	
Exterior Non-Bearing Walls	0		Exterior Doors and Windows	0	
Structural Frame	0		Shaft Enclosures	N/A	
Partitions - Permanent	0		Fire Walls	N/A	
Fire Barriers	N/A		Fire Partitions	N/A	
			Smoke Partitions	N/A	

L. Design Occupant Load: 0

Exit Width Required: 36 Exit Width Provided: 36

M. Minimum Number of Required Plumbing Facilities:

a) Water Closets - Required (m) 0 (f) 0 Provided (m) 2 (f) 3

b) Lavatories - Required (m) 0 (f) 0 Provided (m) 2 (f) 2

c) Bath Tubs or Showers: 0 PROVIDED 5

d) Drinking Fountains: 0 Service Sinks: 0 PROVIDED 1 PROVIDED 0

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.

2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:

a) High Rise Requirements.
b) Atriums.
c) Performance Based Criteria.
d) Means or Egress Analysis.
e) Fire Assembly Locator Sheet.
f) Exterior and Interior Accessibility Route.
g) Fire Stopping, Including Tested Design Number.

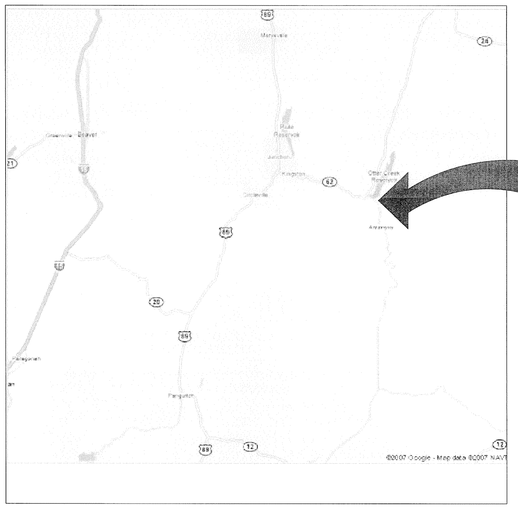
INDEX OF DRAWINGS

APPROVALS

UTAH PARKS & RECREATIONS PROJECT MANAGER — DATE

DEPUTY STATE FIRE MARSHALL - TODD HOHBEIN — DATE

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT — DATE



PROJECT SITE

VICINITY MAP

ARCHITECT:
CAMPBELL & ASSOCIATES
46 NORTH 200 EAST
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435/628-5969
435/628-5975 fax
ATTN: KIM O. CAMPBELL

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801/222-0922
801/222-0902 fax
ATTN: KARL JACOBSEN

MECHANICAL:
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1070 WEST 1600 SOUTH
SUITE #104
ST. GEORGE UT 84770
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435/674-2708 fax
ATTN: LADD BIRCH

ELECTRICAL:
BNA CONSULTING
1070 WEST 1600 SOUTH
SUITE A #104
ST. GEORGE UT 84770
435/628-3670
435/628-3680 fax
ATTN: LAWRENCE REMBER

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267
Internet: http://www.dfcm.state.ut.us

BUILDING NAME:

CAMP GROUND & DAY USE RESTROOMS
OTTER CREEK
HYWY 22, 84712

PROJECT TITLE:

NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

STATE OF UTAH — KIM O. CAMPBELL — 011202010 — REGISTERED ARCHITECT

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET

ISSUE DATE: SEPT. 17, 2007

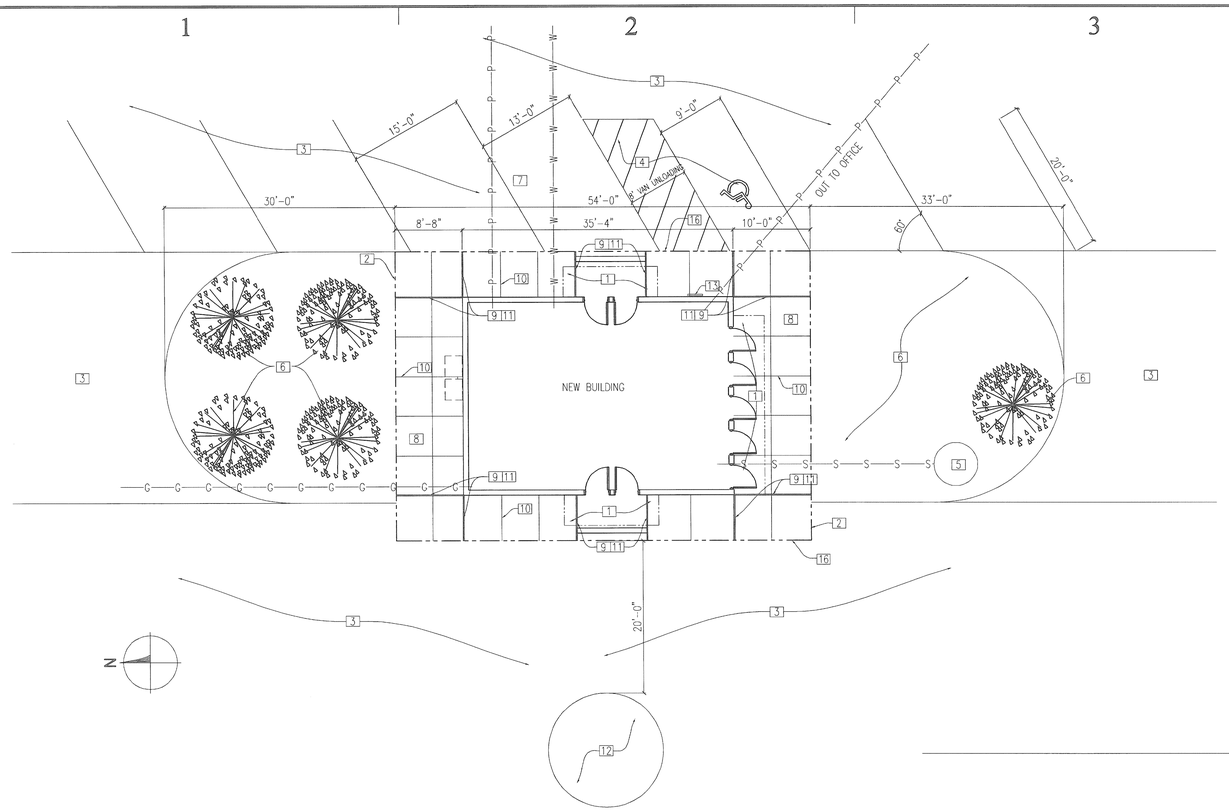
DFCM PROJECT NO: 07172510
CAD PROJECT NO: 07020
CAD DWG FILE:
DRAWN BY: INMA
CHK'D BY:

SHEET TITLE

COVER SHEET
SHEET INDEX

SHEET NUMBER

G-100



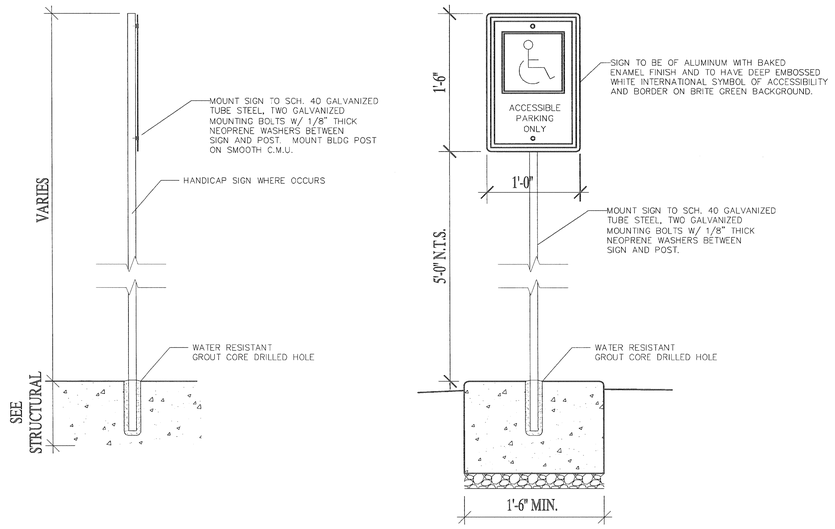
OTTER CREEKDAY USE RESTROOMS SITE PLAN
1/8" = 1'-0"

GENERAL NOTES:

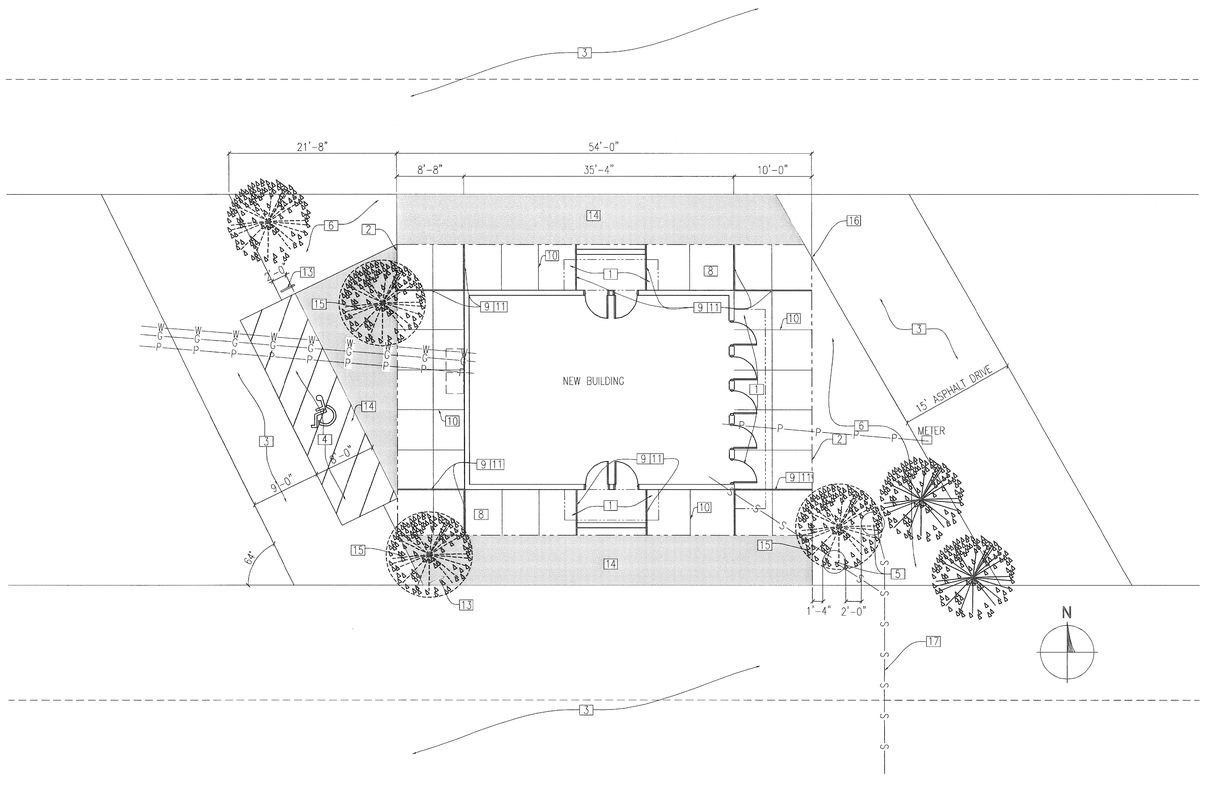
1. DEMOLITION TO THE EXISTING REST ROOMS WILL BE DONE BY STATE PARKS. DEMOLITION INCLUDES: BLDG., FOOTINGS, EXTERIOR CONCRETE, APRONS, TREES & UTILITIES WILL BE SEALED AT DEMOLITION EXTENTS.
2. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS I.E.: TREES, UTILITIES, ASPHALT, LAWN ETC. ANY DAMAGE WILL BE BILLED TO THE CONTRACTOR
3. CONTRACTOR SHALL SCARIFY BOTTOM OF DEMOLITION AREA & COMPACT TO 95%.
   STRUCTURAL FILL SHOULD BE GRANULAR (MINUS 3-INCH), NON-EXPANSIVE, AND FREE OF ORGANICS AND ALL DELETARIOUS MATERIALS. fILL SHOULD HAVE A LIQUID LIMIT LESS THAN 30, A PLASTICITY INDEX LESS THAN 9, AND A FINES CONTENT BETWEEN 10 AND 30% PASSING THE #200 SIEVE. STRUCTURAL FILL SHOULD NOT EXCEED 2 PERCENT SWELL AS DETERMINED BY SATURATING AN AIR-DRIED, REMOLDED, SAMPLE UNDER A SURCHARGE LOAD OF 60 PSF AND SHOULD HAVE A SOLUBILITY OF LESS THAN 3 PERCENT. ALL STRUCTURAL FILL SHOULD BE EVENLY SPREAD ON A HORIZONTAL PLANE IN EIGHT-INCH LOOSE LIFTS.
   FILL WILL BE PLACED IN 8" LIFTS & COMPACT EACH LIFT TO 95%. 4" OF GRANULAR PEA GRAVEL WILL BE PLACED DIRECTLY UNDER THE NEW BLDG. PAD & APRON
4. BLDG. & PAD ELEVATIONS SHALL BE CALCULATED ON SITE USING THE FOLLOWING CRITERIA:
   A. STARTING AT THE HIGHEST EXISTING GRADE AT THE BLDG. APRON CONTRACTOR SHALL PROVIDE A MIN. OF A 1% GRADE UP TO FLOOR LEVEL.
   B. MAINTAIN A MAX OF 2% AT DESIGNATED LANDING ZONES. SEE KEY NOTE #1.
   C. APRON GRADES ON THE LOW SIDE OF BLDG SHALL NOT EXCEED 4 %.
   D. POSITIVE DRAINAGE IS REQ'D ON ALL APRON AWAY FROM BLDG.
5. ALL SEVERED UTILITIES AT DEMO EXTENT BOUNDARY SHALL BE CONTINUED BY CONTRACTOR OVER TO & CONNECTED INTO NEW FACILITY MAINTAIN EXISTING PIPE SIZES & PIPE TYPES. INCLUDING EMBEDMENT & COMPACTION
6. SOD PATCHING & SPRINKLER MODIFICATIONS BY STATE PARKS.

KEY NOTES:

1. LANDING ZONES NOT TO EXCEED 2%
2. EXTENT OF DEMO BY PARKS
3. PROTECT EXISTING ASPHALT
4. NEW STALL STRIPING & A.D.A. SYMBOL. MAX SLOPE IN STALL & UNLOADING ZONE SHALL NOT EXCEED 2%.
5. PROTECT EXISTING UTILITY COVERS
6. PROTECT EXISTING LAWN & TREES THAT REMAIN AFTER DEMO
7. EXISTING STALL STRIPING TO REMAIN
8. 4" CONC. SLAB ON 4" GRANULAR FILL
9. EXPANSION JOINTS
10. CONTROL JOINTS
11. FILL ALL EXPANSION JOINTS W/ A MIN. OF 1/2" SIKAFLEX CAULK
12. PROTECT EXISTING PLANTER
13. HANDICAPPED SIGN SEE DETAIL 1/ASSP00
14. 3" ASPHALT ON 6" OF ROAD BASE
15. DEMO EXISTING TREE
16. ON ASPHALT & PATCH BACK TO NEW CONCRETE FOUNDATION
17. EXISTING LINES & EXISTING LEACH FILED ACROSS HIGHWAY



1 ASSP00 TYPICAL SIGN DETAIL
N.T.S. SEE ANSI 502.6 / 703.7



OTTER CREEK CAMPGROUND RESTROOM SITE PLAN
1/8" = 1'-0"

State of Utah
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Division of Facilities Construction & Management
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STATE OF UTAH CAMPBELL 01/2002016 REGISTERED ARCHITECT

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ISSUE DATE: SEPT. 17, 2007

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CAD PROJECT NO: 07020
CAD DWG FILE: G-100
DRAWN BY: INMA
CHK'D BY:

SHEET TITLE
SITE PLANS

SHEET NUMBER
72510-ASSP00

GENERAL NOTES

Governing Building Code - 2006 International Building Code

Design loads:
- Occupancy Category II
- Roof Snow — Pg = 49 psf ground snow; Pf = 34 psf flat roof snow load; Ce = 1.0, Is = 1.0, Ct = 1.0
- Wind — 90 mph basic wind speed, exposure C, Iw = 1.0, GCpi = +/- 0.18
- Seismic — Ie = 1.0
  - Design Category D
  - Masonry Shear Walls
  - Ss = 67.8%, S1 = 20%
  - SDS = 0.5686, SD1 = 0.2667
  - R = 5.0
  - Cs = 0.2021
  - Base Shear = 38.2 k
  - Equivalent Lateral Force Procedure
- Soil — Soils report not provided by State; Allowable Bearing Capacity 1500 psf; Site Class D

CKR Engineers recommends that the owner provide a geotechnical study on the site completed by a competent Geotechnical Engineer. When completed, CKR Engineers shall be entitled to rely on the accuracy and completeness thereof. If the owner chooses not to have a geotechnical study completed, the owner assumes full responsibility and liability for any structural damage or other problems related to existing site conditions.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION IN ANY AREA! DO NOT SCALE DRAWINGS!

Refer to the Special Inspection schedule for all required inspections. All requirements of chapter 17 of the IBC shall be followed.

These structural notes do not supersede the project specifications. Consult the project specifications for additional requirements in each section. If conflict between notes and specifications occurs, the most stringent requirement governs. Notes and details on drawings take precedence over general notes, typical details, and specifications.

During construction, the contractor shall field verify all dimensions prior to fabrication or construction in any area. The Architect shall be notified of any discrepancies, omissions, or inconsistencies. In case of conflict, follow the most stringent requirements as directed by the Architect and Engineer.

All work shall conform to the minimum standards of the International Building Code, any other regulating agencies that have authority over any portion of the work, and the codes and standards listed in these notes and specifications. All specifications noted shall be the latest approved revision or edition. The General Contractor shall review and approve all shop drawings prior to submitting them to the Architect. A reviewed copy of all shop drawings shall be kept at the construction site for reference. The shop drawing review does not relieve the General Contractor of any responsibility for completion of the project according to the contract documents.

All details and notes on drawings are intended to be typical and shall apply to similar situations elsewhere unless noted or shown otherwise.

The contractor shall investigate the site during clearing, excavation or other earthwork operations for filled excavations, buried structures or unnatural soil conditions. If any of these conditions are found, the Architect and Geotechnical Engineer shall be notified immediately.

Structural drawings and specifications represent the finished structure, not the method of construction. The contractor shall be responsible for all measures necessary to protect the structure during construction. These measures include, but are not limited to: bracing, shoring, etc. Shoring and bracing shall remain in place until all permanent members are in place and connections complete. Observation visits to the site by the Engineer or his representative shall not include inspection of these items.

Construction materials shall be spread out if placed on framed roof. Loads shall not exceed the design strength of the construction. Provide adequate shoring or bracing where structure has not attained design strength.

The contractor shall coordinate with all trades all items that are to be integrated into the structural system. Concrete reinforcing, anchor rods, embed plates, and any other items embedded in concrete, shall be securely tied in place prior to ordering concrete. Wet setting/stabbing of any items is not permitted.

See Architectural drawings for the following: (Unless noted)
- Size and location of door, window, floor, and roof openings.
- Size and location of all interior and exterior non-bearing partitions.
- Size and location of all curbs, drains, depressed areas, slopes, changes in level, grooves, chamfers, inserts, etc.
- Floor and roof finishes.
- Dimensions not shown on structural drawings.

See Mechanical and Electrical drawings for the following: (unless shown or noted)
- Pipe runs, sleeves, trenches, hangars, wall and slab openings, etc.
- Electrical conduits, boxes, and outlets in walls and slabs.
- Concrete insert requirements for mechanical and electrical.
- Size and location of machine or equipment bases, anchor bolt requirements, etc.

Openings larger than 6 in. shall not be placed in slabs, decks, walls, etc., unless specifically detailed on the structural drawings. Notify the Structural Engineer when drawings by others show above conditions located in structural members.

The Engineer shall be notified forty-eight hours in advance prior to any of the following:
- Placing any concrete.
- Closing any forms.
- Grouting any masonry.
- Completing the nailing of the sheathed roof.

Observation visits by the Engineer or his representative shall neither be construed as inspection nor approval of construction.

FOUNDATIONS

Footings shall be placed on undisturbed soil or structural fill per the soils report. Excavations for footings are to be approved by the Geotechnical Engineer prior to placement of concrete or reinforcing. The Contractor shall give the Geotechnical Engineer 48 hours notice for site observations. The Geotechnical Engineer shall submit letter of compliance to the Owner and the Structural Engineer.

The contractor shall provide for proper de-watering of any and all excavations if required.

The contractor shall provide for the design and installation of all cribbing, sheathing, and shorings required to safely and adequately retain any excavations.

Along with scheduled dowels, roughen surface of footing under foundation to 1/4 in. undulations.

All retaining walls, building walls, pits, etc. must have attained their design strength and support prior to backfilling. Exception - if bracing is used to support walls and etc. for early backfilling, the contractor is responsible for design, permits and installation of such bracing.

Grading shall allow for positive drainage (5 percent minimum) away from the building, other footings and foundations, drives, and sidewalks. All downspouts shall drain onto 3-foot long splash blocks sloping away from foundations.

Excessive wetting or drying of the foundation excavation and the floor slab areas should be avoided during construction.

All fill, imported or local shall be examined and approved by the Geotechnical Engineer prior to use in controlled fill areas. Backfill around the building shall be of relatively impervious soil. Fill materials shall be placed and compacted in layers using approved compaction equipment. Watering of fill material shall be as recommended by the soils report.

All fill supporting concrete slabs, footings, or etc. shall be moistened and compacted to at least 95 percent of the maximum dry density as determined by ASTM D-1557 (Modified Proctor). All other fill shall be compacted to a minimum relative compaction of ninety (90) percent of maximum dry density. An approved testing agency shall perform the compaction testing and submit the results to the Structural Engineer. Sufficient field density tests shall be performed to certify building pads as conforming to the specifications.

REINFORCING STEEL (FOR CONCRETE AND MASONRY)

All reinforcing steel shall be detailed and placed in conformance with the 'Building Code Requirements For Reinforced Concrete' (ACI 318 latest approved edition) and 'The Manual Of Standard Practice For Reinforced Concrete Construction' (latest approved edition) by the CRSI and the WCRSI, as modified by the project drawings and specifications.

All reinforcing bars shall be free of rust, scale, grease, form oil, or other material that might affect or impair bond.

The contractor shall furnish all chairs, support and tie bars required in addition to the scheduled reinforcing.

All steel reinforcement shall conform to ASTM A615 Grade 60 with minimum yield strength of 60,000 psi, with the following three exceptions:

1. #3 and #4 breakout dowels may be Grade 40 with a minimum yield strength of 40,000 psi.
2. All reinforcing that is to be welded shall be Deformed Weldable Bar (DWB) that conforms to ASTM A706 Grade 60.
3. Unless noted otherwise (UNO) on drawings.

Welding of reinforcing shall be with low hydrogen electrodes in conformance with 'Recommended Practices For Welding Reinforcing Steel' American Welding Society, AWS-D1.4.

Splices of reinforcing bar, if required, shall be avoided at points of maximum stress. See the lap splice schedule for minimum lap lengths. Bar splices shall be increased 50 percent (UNO) for epoxy coated bars. Splices shall be made in a region of compression, unless shown otherwise.

Reinforcing bars shall neither be welded nor bent by heating. Where inserts require welding to plates, angles or the like, deformed weldable bars shall be used.

All 90 degree hooks in reinforcing bars shall be bent with an inside diameter of 6 bar diameters for #3 to #8, 8 bar diameters for #9 to #11 bars and 10 bar diameters for bars larger than #11. Extend bars 12 bar diameters beyond bend. All 180 degree hooks in reinforcing bars shall be bent with an inside diameter of 6 bar diameters for #3 to #8, 8 bar diameters for #9 to #11 bars and 10 bar diameters for bars larger than #11. Extend bars a minimum of 4 bar diameters, or 2-1/2 in. beyond bend.

Dowels between footings and walls or columns shall be the same grade, size, and spacing or number as the vertical reinforcing, respectively, UNO.

Where concrete girths, beams, or walls are continuous around a corner, add corner bars to lap from each direction. Reinforcing bars in the interior faces shall extend to within 2 in. of the outer face and shall terminate in a standard hook or bend.

CONCRETE

All phases of work pertaining to the concrete construction shall conform to the 'Building Code Requirements For Reinforced Concrete' (ACI 318) and the 'Specifications For Structural Concrete For Buildings' (ACI 301) latest approved editions, with modifications as noted in the drawings or specifications.

Concrete mixes shall be designed by a qualified testing laboratory and approved by the Structural Engineer. All concrete in contact with the earth shall contain Type I Portland cement unless noted otherwise (UNO).

All exterior concrete shall be air entrained by 6% +/-1%. Interior concrete shall be air entrained by 3% +/- 1%.

Calcium chloride shall not be used.

Concrete shall have the following minimum compressive strengths within 28 days after placement (UNO):

Footings	3,000 psi
Foundation	4,000 psi
Interior Flatwork	4,000 psi
All Exterior Concrete	4,000 psi

In areas subject to sulfates, all concrete in contact with earth shall contain Type V cement with w/c ratio < 0.45 and minimum compressive of 4,500 psi.

Maximum concrete slump shall not exceed four inches.

Concrete samples for concrete being placed using a pump shall be taken at the point of discharge.

All concrete shall be thoroughly cured according to ACI recommendations. Follow ACI 306R "Cold Weather Concreting" and ACI 305R "Hot Weather Concreting" for all concrete and masonry work when required by current weather conditions.

Conduits and pipes embedded in concrete shall conform to the requirements in Section 1906.3 of the International Building Code.

No aluminum or product containing aluminum or any metal injurious to concrete shall be embedded in concrete.

Both interior and exterior concrete slabs-on-grade shall be a minimum of 4 inches in thickness UNO, with sawn or preformed joints at maximum 10 to 12 feet in each direction. Sawn joints shall be 1/4 slab thickness in depth and shall be cut as soon as surface allows and not more than 12 hours after concrete placement. Construction joints shall be made and located as to least impair the strength of the structure and shall be approved by the Architect/Engineer. All reinforcing bars shall be continuous through joints (UNO).

Clear coverage of concrete over outer reinforcement bars shall be as follows (UNO).
- For concrete placed directly against earth, 3 in. cover
- For concrete surfaces exposed to weather, 1 1/2 in. cover.
- For concrete surfaces exposed to ground after removal of forms, 2 in. cover.

WOOD CONSTRUCTION

All phases of work pertaining to wood framing or wood construction shall conform to the requirements listed in Chapter 23 of the IBC.

All wood structural panels shall be Structural I, Exposure I, UNO.

Edges of roof sheathing shall be blocked and nailed as indicated on drawings.

Trusses shall have all blocking, bracing, bridging, and etc. as recommended by the manufacturer.

REQUIRED MINIMUM NAILING SCHEDULE: (See IBC Table 2304.9.1)

10d common = $30^{\times 0.148\sigma}$ 10d box = $30^{\times 0.1280}$

Plywood to roof joists, trusses or studs - see nailing schedule

Nails or other approved sheathing connectors shall be driven flush but shall not break the surface of the sheathing.

PLATED WOOD TRUSSES

Design criteria:
- Live Load Top Cho d = 35 sf
- Dead Load Top Chord = 10 psf
- Dead Load Bottom Chord = 5 psf

Trusses shall be designed for the following load combinations:
- Full Snow Load 2 Including drift loads
- Unbalanced Snow Load Required by ASCE 7
- Full Wind Load
- Net Wind Uplift per ASCE 7

No truss member shall be stamped utility, construction, or #3 grade.

Minimum plate size is 10 square inches (2" x 5").

All gusset plates shall extend at least 2 1/2" onto each member at each joint.

No joint shall have more than 1/16" average gap between bearing surfaces.

Plates shall be flush with wood, but the wood shall not be crushed.

Lumber at plates shall be a complete section with no knots or excessive ware.

All trusses are to be engineered by the truss manufacturer. Truss shop drawings shall be submitted to CKR Engineers for review prior to fabrication. Shop drawings shall include all trusses and a truss layout and shall be stamped by a registered professional engineer. All truss to truss connections shall be shown on the shop drawings per TPI requirements.

Nail all multiple ply girder trusses together as required by the truss shop drawings.

Shop drawings shall include the following information:
- The allowable loads in pounds per effective nail for the lumber and plates used as allowed by ICBO and ICBO report number.
- Duration factors or stress reduction factors used in the design of the lumber and plates.
- Top and bottom chord design loads in psf.
- Size, gauge, and exact location by dimension of all plates.
- The lumber species and grades used.
- Engineer's stamp and signature.
- The name and trademark of the plate manufacturer, the truss fabricator and the project name and address.
- Computed mid-span deflection (total load).

Only one plate per panel point per truss side will be allowed. Each chord section shall extend through two panel points prior to being spliced.

Follow BCSI 2006 for handling, installing and bracing wood trusses.

MASONRY

All masonry construction shall conform to the regulations in Chapter 21, of the International Building Code. All concrete masonry units shall conform to ASTM C-90 for regular weight aggregate or to ASTM C-331 for lightweight aggregate. Use bond beam units at horizontal reinforcing.

All reinforced masonry construction shall conform to the requirements for reinforced grouted masonry or reinforced hollow unit masonry as specified in the above code.

See notes under Reinforcing Steel for general reinforcing bar requirements.

Lap all masonry reinforcing as required by the masonry lap splice schedule, or provide equivalent mechanical ties. All vertical reinforcing shall be doweled from the footing or structure below and to the structure above. Provide horizontal corner bars at all wall intersections. Dowels and corner bars shall be the same bar size and spacing as the scheduled or detailed wall reinforcing. All corners and ends shall have vertical reinforcing in grouted cells. Provide a minimum of 1/2-inch grout between main reinforcing and masonry units.

Reinforcing bars shall neither be welded nor bent by heating. Where inserts require welding to plates, angles and the like, grade 60 deformed weldable bars (DWB) shall be used (ASTM A706).

Where horizontal wall reinforcing bars butt to steel columns, they shall be field welded to column so as to develop the strength of the bar. Use grade 60 deformed weldable bars (ASTM A706).

Where horizontal wall reinforcing bars join concrete or masonry columns or pilasters, reinforcing shall be continuous. A key shall be provided between wall and column or pilaster.

Reinforcing around openings in reinforced masonry walls shall be at least one bar of the scheduled reinforcing (minimum #5) along each side of every opening which extends at least 24" or 48 bar diameters beyond the corners of the opening, whichever is greater.

Mortar for reinforced masonry above grade shall conform to ASTM C-270, type PL and be IBC type S, and attain a compressive strength of 2000 psi at 28 days. Mortar for below grade walls shall be type M and attain a compressive strength of 2500 psi at 28 days.

Grout for reinforced masonry shall conform to ASTM C-270. Use sufficient water for grout to flow into all masonry joints without separation. Grout shall attain a compressive strength of 2000 psi above grade and 3000 psi below grade at 28 days.

The compressive strength of masonry shall equal or exceed f' = 1500 psi (UNO) and shall be verified either by a set of five masonry prisms which shall be built and tested in accordance with IBC 2105.3 prior to the start of construction or by the submitting of previous tests results.

Refer to the Architectural drawings for surface and height of units, laying pattern and joint type.

For single wythe reinforced brick walls, the reinforcing shall be placed in lengths to permit maximum 8 foot lifts. Cleanouts are required if the maximum 8 foot lifts are used. Reinforcing bars shall be securely tied in the desired position within the wall at not to exceed 192 bar diameters. All grout pours, except the top pour, shall terminate approximately 1/2 inch below the top of the last course laid.

EPOXY INSTRUCTIONS FOR ANCHORING REBAR AND BOLTS
(Referred to below as bar(s))

Use epoxy that meets ICBO AC58 criteria for seismic and high wind applications, e.g. Simpson SET High Strength Epoxy

Bars must be deformed or threaded for the full embedment depth in epoxy.

Locate all missing bars.

Over-drill bar diameter as recommended by manufacturer and to depth indicated in the drawings (15 bar diameter minimum depth). Maximum hole size to be no larger than 1/4 in. larger than bar diameter.

Remove all dirt, dust, water, and ice by vacuum from the holes. Brush and blow hole with oil-free compressed air twice.

Clean dirt, rust, and oil from the bars.

During the epoxy mixing and application process, follow the epoxy manufacturer's instructions exactly.

Inject the holes drilled for the bars halfway with epoxy and then insert the bars while twisting slightly. Insure that bar is seated at bottom of hole and that epoxy has flowed from the top of the hole.

Use an epoxy gel for all horizontal holes or vertical holes filled from the bottom.

All bars anchored in epoxy are to be special inspected during installation.

State of Utah
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BUILDING NAME:
CAMPGROUND & DAY USE RESTROOMS OTTER CREEK HYWY 22 84712

PROJECT TITLE:
NEW OTTER CREEK RESTROOMS PIUTE COUNTY UTAH

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET

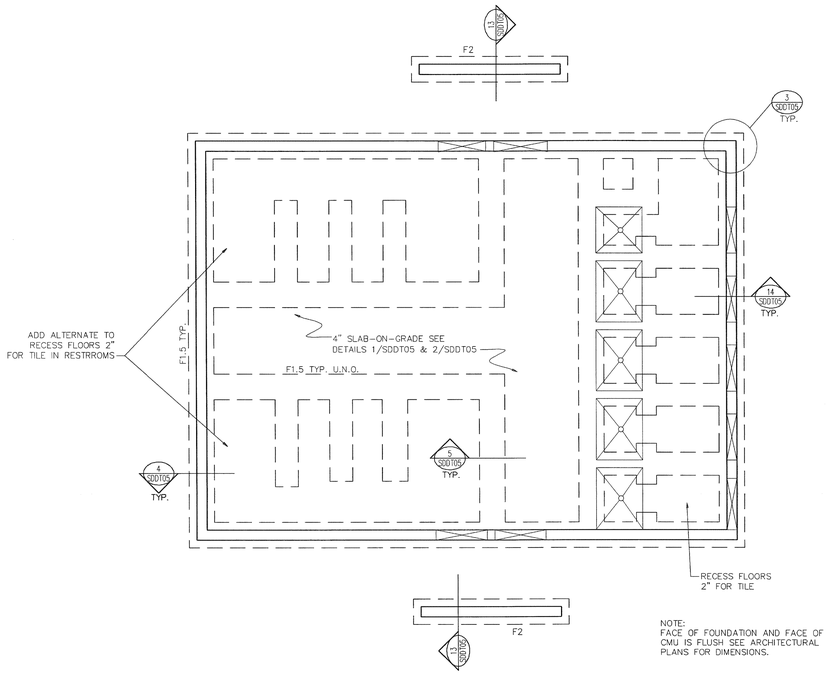
ISSUE DATE: SEPTEMBER 17, 2007

DFCM PROJECT NO: 07172510
CAD PROJECT NO: 07020
CAD DWG FILE:
DRAWN BY: JLR
CHK'D BY:

SHEET TITLE
NOTES

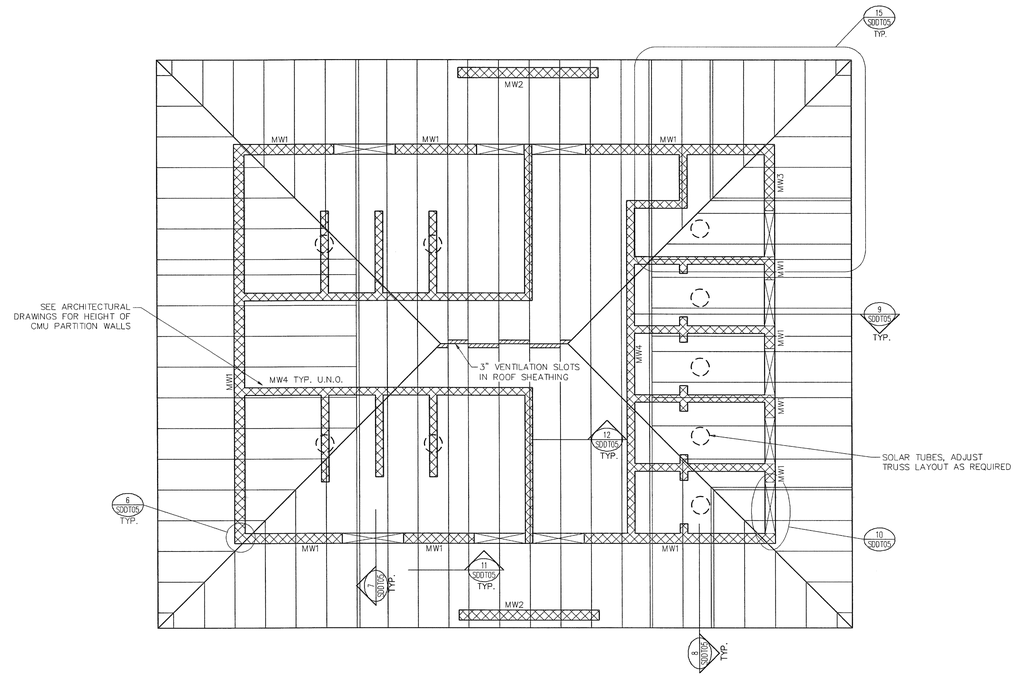
SHEET NUMBER
72510 SDSH06

LICENSED PROFESSIONAL ENGINEER CHAD A. KOHLER No. 343792 STATE OF UTAH



NOTE:
FACE OF FOUNDATION AND FACE OF CMU IS FLUSH SEE ARCHITECTURAL PLANS FOR DIMENSIONS.

FOUNDATION PLAN (1) — 1/4"=1'-0"
NAME



ROOF FRAMING PLAN (2) — 1/4"=1'-0"
NAME

FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICK.	CROSSWISE REINFORCEMENT						LENGTHWISE REINFORCEMENT					
				NO.	SIZE	LENGTH	TYPE	SPACE (IN. O.C.)	NOTES	NO.	SIZE	LENGTH	TYPE	SPACE (IN. O.C.)	NOTES
F1.5	1'-6"	CONT	12	---	---	---	---	---		2	4	CONT	60	12	1
F2	2'-0"	CONT	12	---	---	---	---	---		3	4	CONT	60	9	1

NOTES: 1. PROVIDE 36" MINIMUM FROST DEPTH.

MASONRY REINFORCING SCHEDULE

WALL LOCATION	WALL SIZE	VERTICAL REINFORCEMENT	HORIZONTAL REINFORCEMENT	JAMB STEEL	NOTES
MW1	8" CMU	#5 @ 32" O.C.	(2) #4 @ 48" O.C.	(1) #5	
MW2	8" CMU	#5 @ 32" O.C.	(2) #4 @ 48" O.C.	(1) #5	
MW3	8" CMU	(2) #5 @ 8" O.C.	(2) #4 @ 24" O.C.	(4) #5	
MW4	6" CMU	#5 @ 32" O.C.	#5 @ 48" O.C.	----	

NAILING SCHEDULE

LOCATION	NOTES	APA RATED ICBO APPROVED SHEATHING	MINIMUM NOMINAL SHEATHING THICKNESS (INCHES)	MINIMUM WIDTH OF FRAMING MEMBERS (INCHES)	BLOCKED PANEL EDGES REQUIRED	COMMON NAIL SIZE	NAIL SPACING AT PERIMETER PANEL EDGES AND DIAPHRAGM BOUNDARIES (IN O.C.)	NAIL SPACING AT OTHER PANEL EDGES (IN O.C.)	NAIL SPACING AT INTERMEDIATE FRAMING MEMBERS (IN O.C.)	MINIMUM SPAN RATING
ROOF	1	CDX OR OSB	5/8	1.5	NO	10d	6	6	12	40/20

NOTES:
1. NAILS SHALL NOT BREAK THE SURFACE OF THE SHEATHING.

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Salt Lake City, Utah 84114
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Fax: (801) 538 - 3267
Internet: http://www.dfcm.state.ut.us

BUILDING NAME:
CAMPGROUND & DAY USE RESTROOMS
OTTER CREEK
HYWY 22 84712

PROJECT TITLE:
NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET

ISSUE DATE: SEPTEMBER 17, 2007

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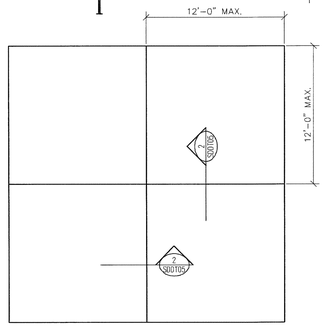
CAD DWG FILE:
DRAWN BY: JLR
CHK'D BY:

SHEET TITLE
FOUNDATION PLAN, ROOF FRAMING PLAN, AND SCHEDULES

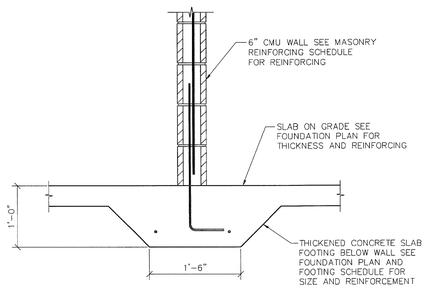
SHEET NUMBER
72510 SDFP01

LICENSED PROFESSIONAL ENGINEER
CHAD A. KOHLER
No. 343792
STATE OF UTAH



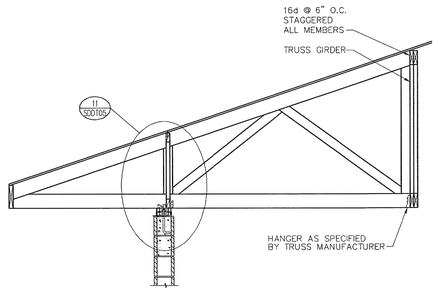
NOTE: COORDINATE JOINT LOCATIONS WITH ARCHITECT.

SLAB-ON-GRADE (1) — 3/16"=1'-0"
SLG

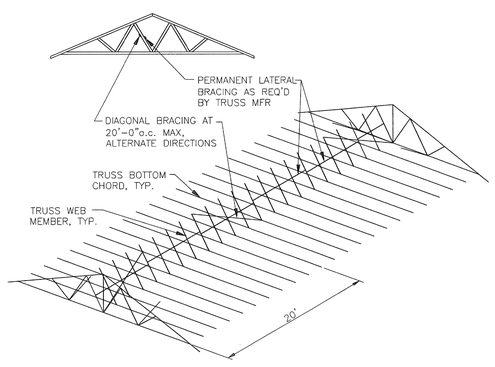


NOTE: USE DETAIL WHERE NECESSARY, COORDINATE W/ ARCHITECT.

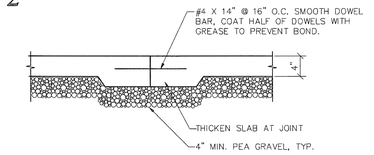
NON-BEARING FOOTING (5) — 1"=1'-0"
FTGNBWSU



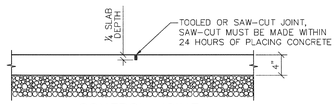
END JACK (9) — 1/2"=1'-0"
RFEJ



DETAIL (12) — 1/8"=1'-0"
RIBBON



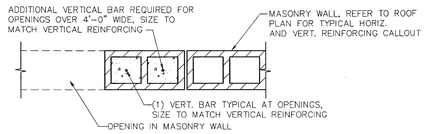
CONSTRUCTION JOINT



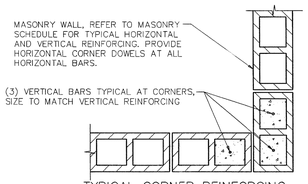
CONTROL JOINT

NOTE: 1. SEE GEOTECHNICAL REPORT FOR SUBGRADE TREATMENT.
2. COMPACT GRAVEL WITH VIBRATORY PLATE COMPACTOR

TYPICAL SLAB JOINTS (2) — 1"=1'-0"
SLJ1



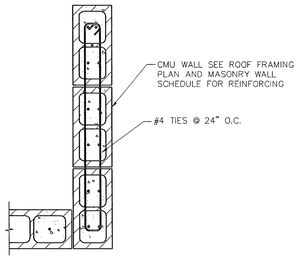
TYPICAL OPENING REINFORCING



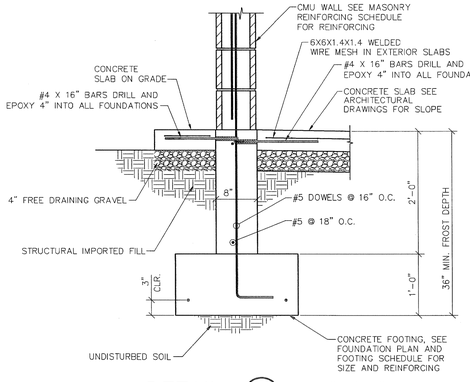
TYPICAL CORNER REINFORCING

NOTE:
1. ALL VERTICAL BARS SHALL HAVE MATCHING DOWELS CAST INTO FOOTING OR FOUNDATION

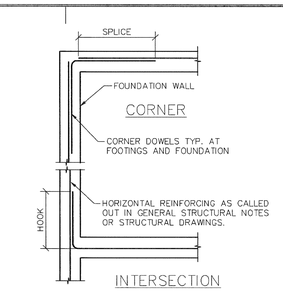
DETAIL (6) — 1"=1'-0"
CMWR



DETAIL (10) — 1"=1'-0"
DET1



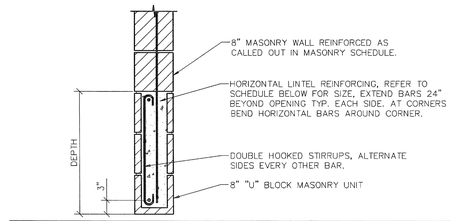
DETAIL (13) — 1"=1'-0"
FTGSU



INTERSECTION

REQUIRED LAP LENGTH			
TYPE	CONCRETE	MASONRY	MIN.
SPLICE	40 BAR DIA.	48 BAR DIA.	24"
HOOK	12 BAR DIA.	20 BAR DIA.	12"

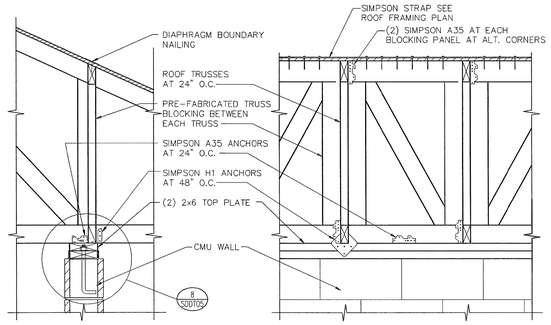
REINFORCING DETAIL (3) — 1/2"=1'-0"
FNDRSC



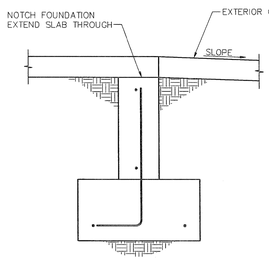
LINTEL	CLEAR OPENING	DEPTH	LINTEL	
			HORIZONTAL REINFORCING	STIRRUPS
L1	UP TO 6'-0"	8"	#5 BARS CONT.	NONE

NOTES:
1. REFER TO DETAIL 6/SDFP01 FOR JAMB STEEL REQUIREMENTS.
2. IF HORIZONTAL REINFORCING CAN NOT BE EXTENDED 2'-0" BEYOND OPENING, PROVIDE 90° STANDARD HOOK.
3. DO NOT LAP BOTTOM STEEL AT CENTER SPAN, NOR TOP STEEL NEAR INTERIOR OR EXTERIOR SUPPORTS.
4. HORIZONTAL WALL REINFORCING SHALL CONTINUE THROUGH MASONRY LINTELS. WHERE BOTH HORIZONTAL WALL REINFORCING AND LINTEL REINFORCING WOULD OCCUR IN THE SAME COURSE, THE LARGER BARS ARE TO REPLACE THE SMALLER BARS.

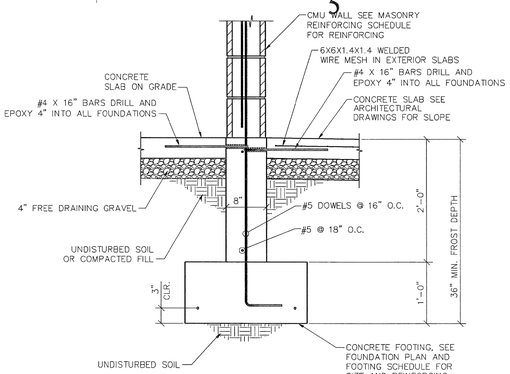
MASONRY LINTEL SCHEDULE (7) —
CML



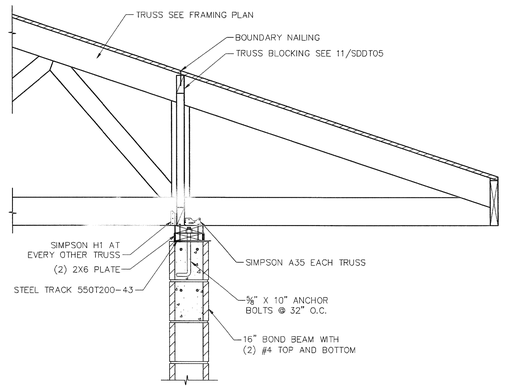
DETAIL (11) — 1"=1'-0"
TRB



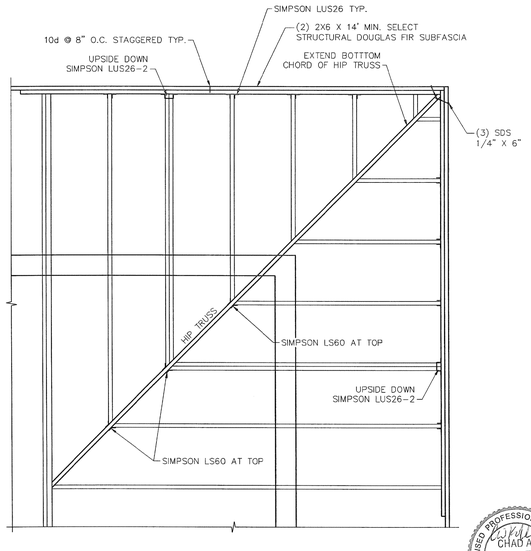
DETAIL (14) — 1"=1'-0"
FTGSS5



DETAIL (4) — 1"=1'-0"
FTGSU



ROOF CONNECTION (8) — 1"=1'-0"
RFSWCMU1



DETAIL (15) — 1/2"=1'-0"
DET10

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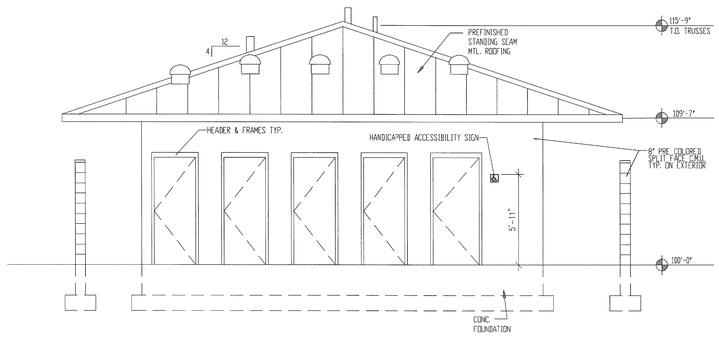
SHEET TITLE

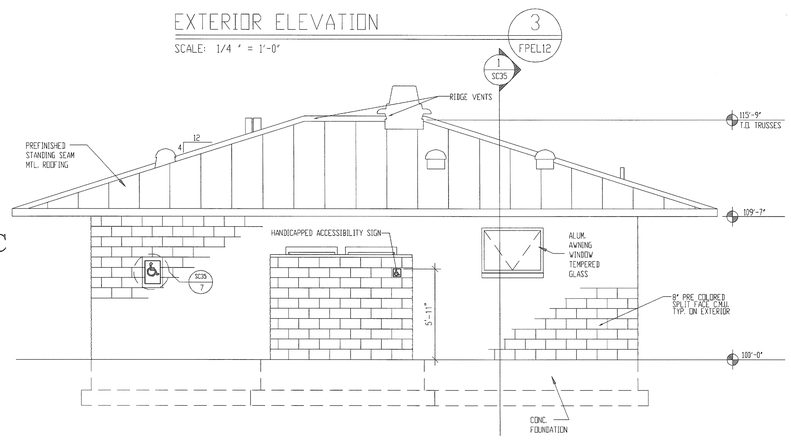
DETAILS

SHEET NUMBER

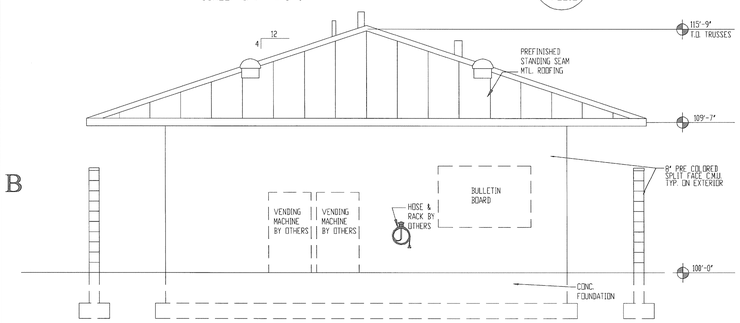
72510 SDDT05



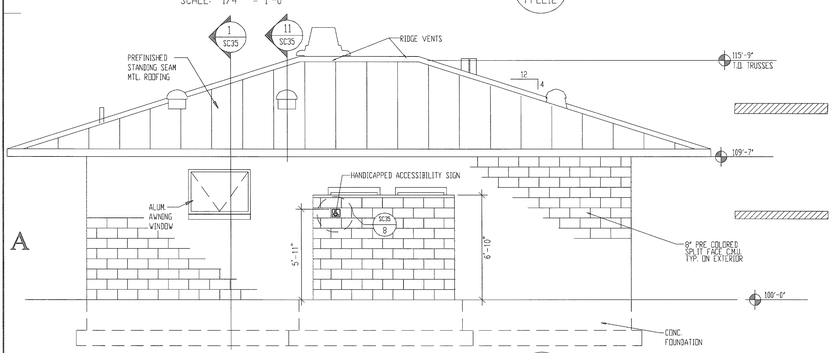
EXTERIOR ELEVATION 3 — SCALE: 1/4 ' = 1'-0"



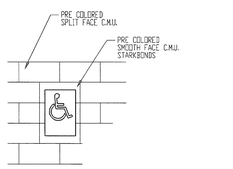
EXTERIOR ELEVATION 4 — SCALE: 1/4 ' = 1'-0"



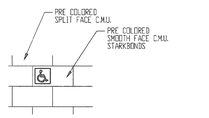
EXTERIOR ELEVATION 5 — SCALE: 1/4 ' = 1'-0"



EXTERIOR ELEVATION 6 — SCALE: 1/4 ' = 1'-0"



HANDICAPPED SIGN 7 — SCALE: 1/2 ' = 1'-0"



HANDICAPPED SIGN 8 — SCALE: 1/2 ' = 1'-0"

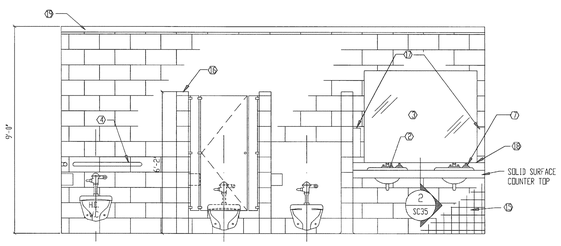
WALL TYPES:

EXTERIOR WALL:
8"X8"X16" SPLIT FACE PRE-COLORED CONCRETE MASONRY UNIT RUNNING BOND. SEE STRUCTURAL FOR REINFORCING FILL VOID CELLS WITH INSULATION STUCCO OR STONE VENEER @ EXTERIOR SEE EXTERIOR ELEVATIONS. COLOR BY OWNER

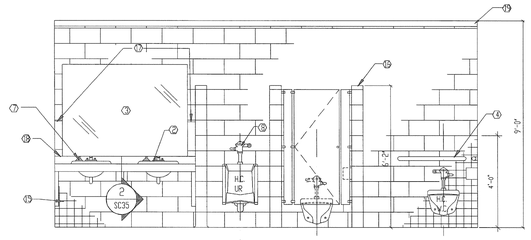
INTERIOR WALL:
6"X6"X16" NATURAL GREY CONCRETE MASONRY UNIT RUNNING BOND. SEE STRUCTURAL FOR REINFORCING SEE FINISH SCHEDULE FOR FINISH

GENERAL NOTES:

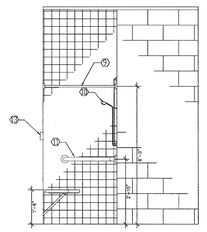
1. SEE SHEET AE5H06 FOR WINDOW TYPES ⬡ AND DOOR TYPES ⬭



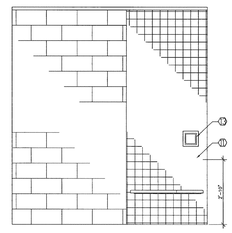
WOMEN'S RESTROOM 001 — SCALE: 3/8 ' = 1'-0" — 1 FPEL12



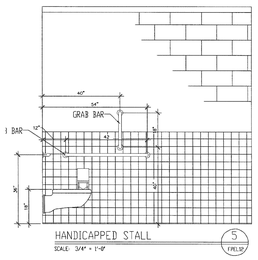
MEN'S RESTROOM 003 — SCALE: 3/8 ' = 1'-0" — 2 FPEL12



HANDICAPPED SHOWER — SCALE: 3/4" = 1'-0" — 3 FPEL12



HANDICAPPED SHOWER — SCALE: 3/4" = 1'-0" — 4 FPEL12

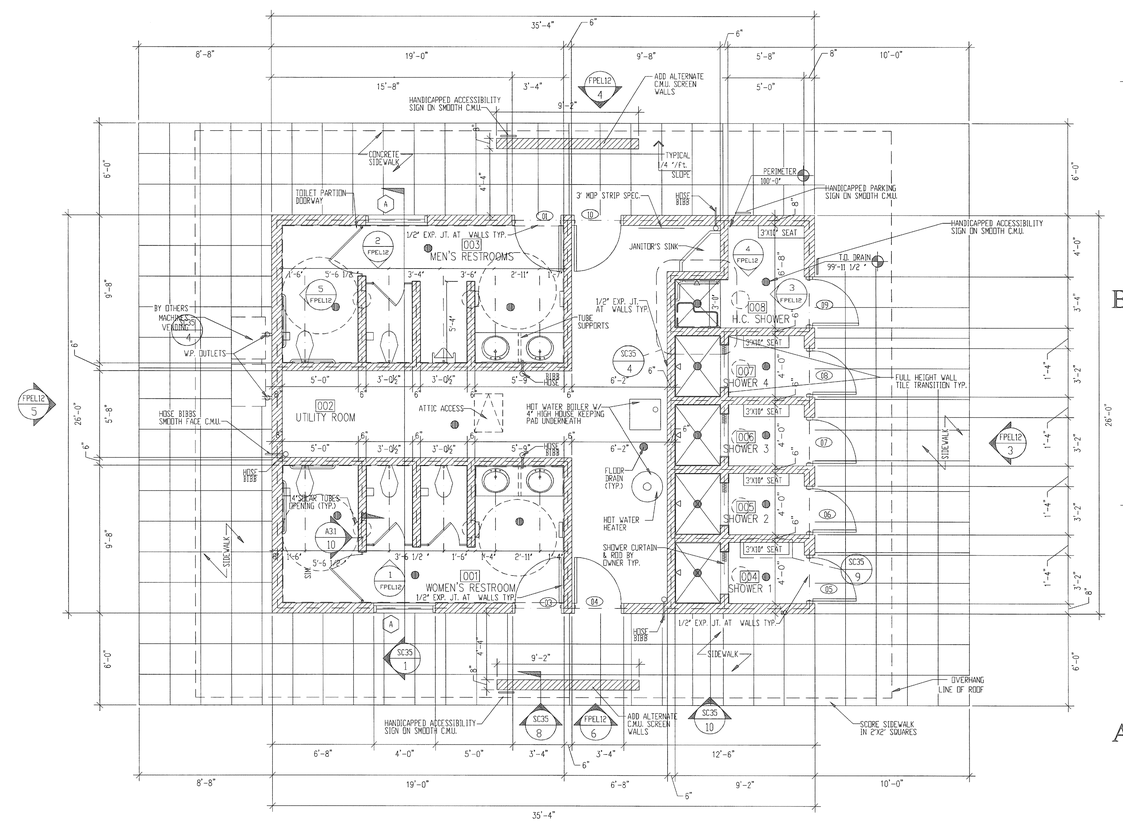


SCALE: 3/4" = 1'-0" — 5 FPEL12

① KEY NOTES

① PAINTED 5/8" GYPSUM BOARD CEILING (WATER RESISTANT)
② MOLDED SINKS TO BE INTEGRAL W/ COUNTERTOPS EQUAL TO BRADLEY "LAV CHECK" MODEL LD - 3000 SERIES (PROTECT AS REQUIRED)
③ 5'-0"X4'-0" MIRROR W/ S.S. FRAME
④ GRAB BAR - 1 1/2" Ø 42" LONG PARALLEL TO TOILET, 36" @ PLUMBING WALL
⑤ TOILET PAPER DISPENSER N.I.C.
⑥ PAPER TOWEL DISPENSER N.I.C.
⑦ SOAP DISPENSER N.I.C. (MOLDED SINK)
⑧ URINAL - WALL MOUNTED HANDICAPPED ACCESSIBLE
⑨ SHOWER CURTAIN ROD N.I.C.
⑩ ACCESSIBLE SHOWER ASSEMBLY
⑪ ACCESSIBLE SHOWER GRAB BAR ASSEMBLY
⑫ ACCESSIBLE SHOWER SEAT
⑬ RECESSED SOAP DISH
⑭ 2"X2" CERAMIC TILE @ SHOWER FLOOR SLOPED TO DRAIN (ACCESSIBLE SHOWER)
⑮ 4"X4" CERAMIC TILE @ 4'-0" HIGH
⑯ 2" C.M.U. CAP
⑰ ELECTRIC HAND DRYER
⑱ 4" BACKSPLASH
⑲ 3" WOOD TRIM

GENERAL NOTES:
CONTINUOUS SEALANT AROUND FIXTURES TRIM



FLOOR PLAN — SCALE: 1/4 '=1'-0"

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CAD DWG FILE: A1.1
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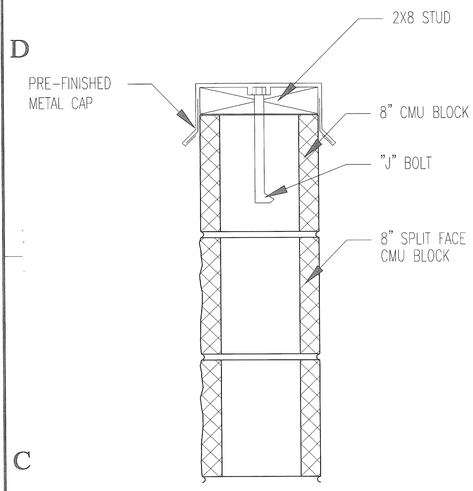
SHEET TITLE

FLOOR PLAN
INTERIOR & EXTERIOR ELEVATIONS

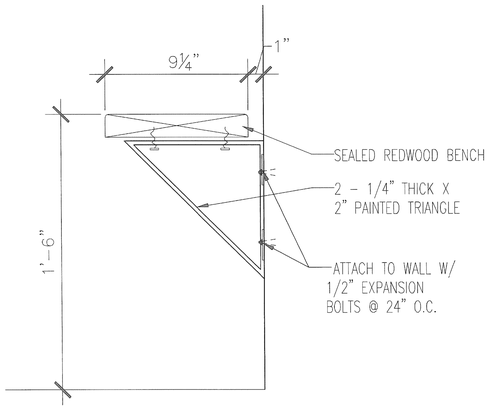
SHEET NUMBER

72510-AEFPEL12



SCREEN WALL DETAIL 8 / SC35

SCALE: 3 " = 1' -0"



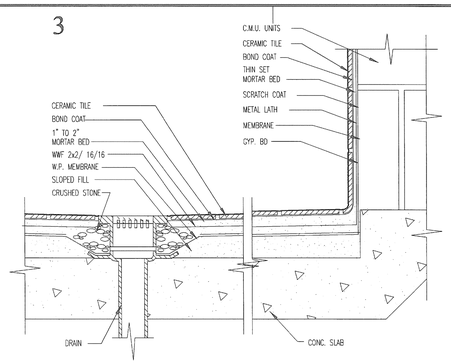
SHOWER SEAT DETAIL 9 / SC35

SCALE: 3 " = 1' -0"

ATTIC CALCULATIONS:

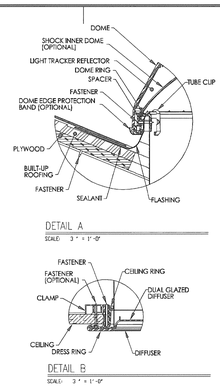
PER IBC 2006 (1203.2 EXCEPTION)

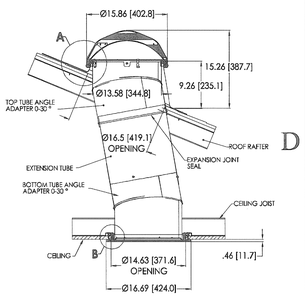
BLDG. SF 918 - 300 = 3.06 SF X
144 = 440 SQ. INCHES - 2 = 220 SQ. IN.
HIGH & 220 SQ. INCHES LOW
RIDGE VENT PROVIDES 234 SQ. INCHES
PERFORATED SOFFIT PROVIDES
REMAINING 206 SQ. INCHES



SHOWER TILE FLOOR & ADD ALT. RESTROOM TILE 5 / SC35

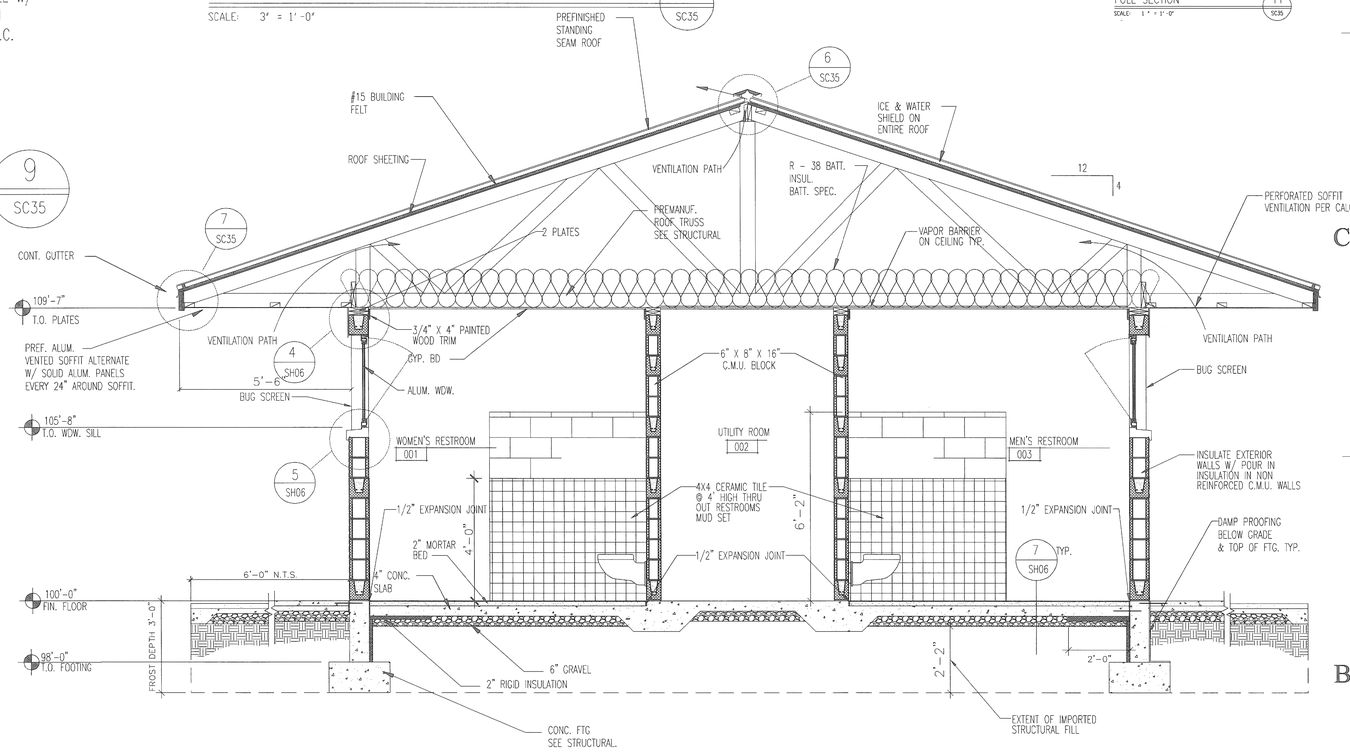
SCALE: 3" = 1' -0"





FULL SECTION 11 / SC35

SCALE: 1" = 1'-0"



BUILDING SECTION "1" 1 / SC35

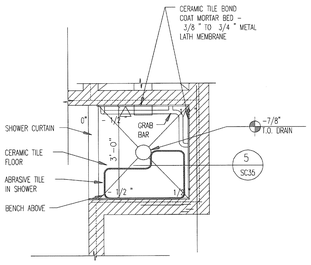
SCALE: 1/2 " = 1' -0"

ADD ALTERNATES:

#1 CERAMIC TILE ON FLOOR & 4' UP WALLS OF MEN'S 003 & WOMEN'S 001.

#2 EXTERIOR C.M.U. SCREEN WALLS FOUNDATIONS & FOOTINGS

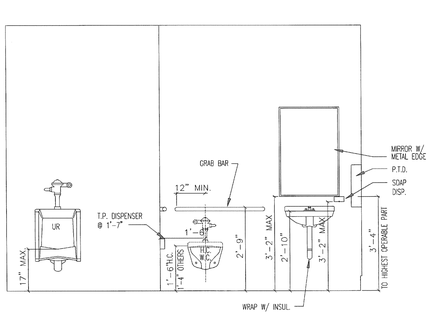
IF ADD ALTERNATE #1 IS NOT CHOSEN THEN THE CONC. FLOOR WILL BE NON-RECESSED W/ SEALER AND EPOXY PAINTED ON C.M.U. WHERE WALL TILE WOULD HAVE OCCURRED



NOTE: THE SHOWER SEAT SPECIFIED WILL BE A FOLD-DOWN SEAT COMPLYING WITH ANSI 117.1 (1992 EDITION)

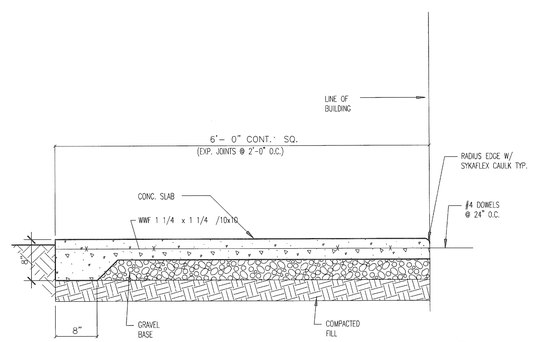
HANDICAPPED SHOWER 4 / SC35

SCALE: 1/2 " = 1' -0"



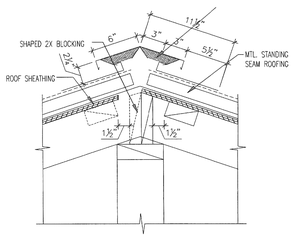
TYPICAL FIXTURE HEIGHT 3 / FPEL12

SCALE: 1/2 " = 1' -0"



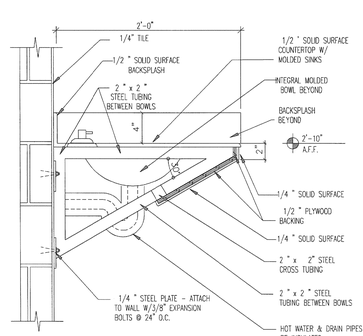
SIDEWALK DETAIL 10 / SC35

SCALE: 1" = 1' -0"



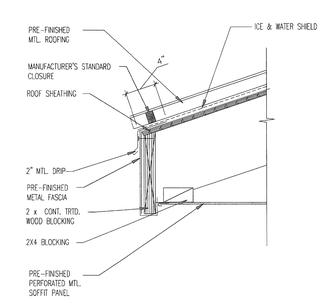
RIDGE VENT DETAIL 6 / SC35

SCALE: 1 1/2 " = 1' -0"



COUNTER DETAIL 2 / SC35

SCALE: 1 1/2 " = 1' -0"



FASCIA DETAIL 7 / SC35

SCALE: 1 1/2 " = 1' -0"

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BUILDING NAME:

CAMP GROUND & DAY USE RESTROOMS
OTTER CREEK
HYWY 22, 84712

PROJECT TITLE:

NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET

ISSUE DATE: SEPT. 17, 2007

DFCM PROJECT NO: 07172510
CAD PROJECT NO: 07020
CAD DWG FILE: A3.1
DRAWN BY: INMA
CHK'D BY:
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SHEET TITLE

SECTION VIEW & PLUMBING FIXTURE HEIGHTS & DETAILS

SHEET NUMBER

72510-INSC35

DOOR SCHEDULE

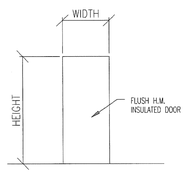
DOOR NUMBER	ROOM NUMBER	DOOR TYPE	DOOR MATERIAL	DOOR WIDTH	DOOR HEIGHT	DOOR THICK	FRAME TYPE	FRAME MATERIAL	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	GLAZING	REMARKS
001	003	F	HM	3'-0"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
003	001	F	HM	3'-0"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
004	002	F	HM	3'-0"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
005	004	F	HM	2'-10"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
006	005	F	HM	2'-10"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
007	006	F	HM	2'-10"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
008	007	F	HM	2'-10"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
009	008	F	HM	3'-0"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
010	002	F	HM	3'-0"	7'-0"	1 3/4"	M1	HM	1/SH06	2/SH06	3/SH06		
011													
012													

FINISH SCHEDULE

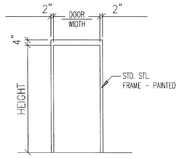
ROOM NUMBER	ROOM NAME	F FLOORING: NONE	F: 2X2 CERAMIC TILE ADD ALT.	F: SEALED CONCRETE	F: 2X2 CERAMIC TILE	F: SEALED CONCRETE DRESSING	B BASE: CERAMIC TILE 4X4	B: CERAMIC TILE ADD ALT.	B: EPOXY PAINT	W WALLS: EPOXY PAINT	W: CERAMIC TILE @ 48" HIGH AND ALT.	W: AFTER 48" EPOXY PAINT	W: 4X4 CERAMIC TILE FULL HEIGHT	W: DRESSING PAINTED EPOXY	C CEILING: EPOXY PAINT	C: 4X4 CERAMIC TILE IN SMWR.	C: EPOXY PAINT GYP. BD.	NOTES:	ROOM NUMBER
001	WOMEN'S RESTROOM		○	○				○	○	○	○	○			○		○		001
002	UTILITY ROOM			○				○		○					○		○		002
003	MEN'S RESTROOM		○	○				○	○	○	○	○			○		○		003
004	SHOWER			○	○		○	○		○			○	○	○	○	○		004
005	SHOWER 2			○	○		○	○		○			○	○	○	○	○		005
006	SHOWER 3			○	○		○	○		○			○	○	○	○	○		006
007	SHOWER 4			○	○		○	○		○			○	○	○	○	○		007
008	H.C. SHOWER			○	○		○	○		○			○	○	○	○	○		008

DOOR & FRAME TYPES

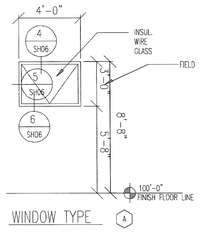
SCALE: NONE



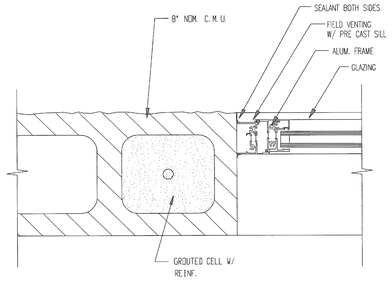
DOOR TYPE F



FRAME TYPE M1

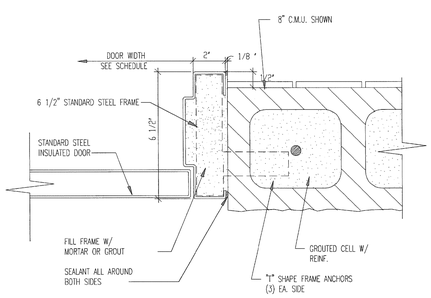


WINDOW TYPE



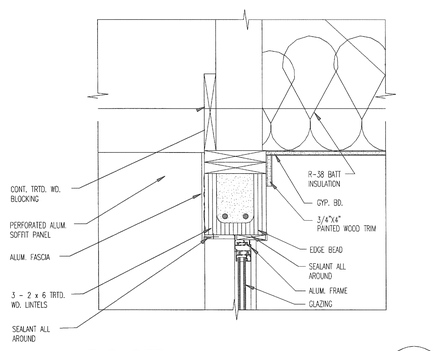
WINDOW JAMB DETAIL — 6 / SH06

SCALE: 3" = 1'-0"



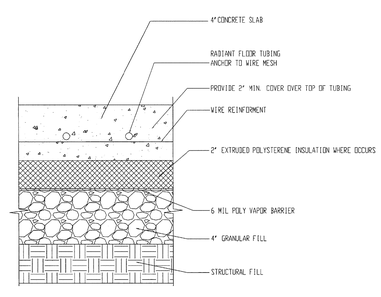
DOOR DETAIL — 2 / SH06

SCALE: 3" = 1'-0"



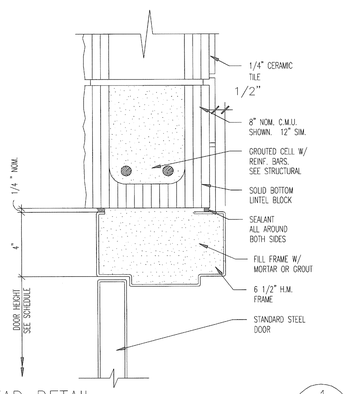
HEAD DETAIL — 4 / SH06

SCALE: 1 1/2" = 1'-0"



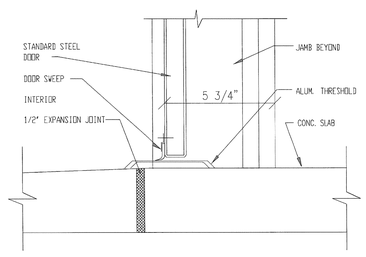
RADIANT FLOOR DETAIL — 7 / SH06

SCALE: N.T.S.



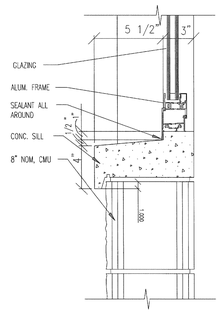
HEAD DETAIL — 1 / SH06

SCALE: 3" = 1'-0"



DOOR TRESHOLD — 3 / SH06

SCALE: 3" = 1'-0"



SILL DETAIL — 5 / SH06

SCALE: 1 1/2" = 1'-0"

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CAMP GROUND & DAY USE RESTROOMS
OTTER CREEK
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UTAH

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET

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DFCM PROJECT NO: 07172510
CAD PROJECT NO: 07020
CAD DWG FILE: G-100
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SHEET TITLE

DOOR & WINDOW SCHEDULE
HEAD & JAM DETAILS

SHEET NUMBER

72510-AESH06

PLUMBING SYMBOLS AND ABBREVIATIONS

LINE TYPE	ABBREV.	DESCRIPTION	LINE TYPE	ABBREV.	DESCRIPTION
	CW	COLD WATER		PRV	PRESSURE REDUCING VALVE
	HW	HOT WATER			BUTTERFLY SHUTOFF VALVE 2 1/2" & LARGER. BALL VALVE 2" & SMALLER
	HWR	HOT WATER RETURN	WCO	WCO	WALL CLEANOUT
	FD	FLOOR DRAIN	FCO	FCO	FLOOR CLEANOUT
G	G	GAS	COTG	COTG	CLEANOUT TO GRADE
	V	VENT		POC	POINT OF CONNECTION
VTR	VTR	VENT THRU ROOF		RD RDO	ROOF DRAIN OR ROOF DRAIN OVERFLOW
	W	WASTE (BELOW GRADE)			SHUTOFF COCK
W	W	WASTE (ABOVE GRADE)			UNION
RD	RD	ROOF DRAIN	C	C	CONDENSATE DRAIN
RDO	RDO	ROOF DRAIN OVERFLOW	CO	CO	CONDENSATE OVERFLOW DRAIN
		PIPE INTO PLANE			PIPE OUT OF PLANE

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	CW (IN)	HW (IN)	W (IN)	V (IN)
FD-1	FLOOR DRAIN	-.-	-.-	2	1-1/2
FD-2	SHOWER DRAIN	-.-	-.-	2	1-1/2
HB-1	HOSE BIBB	3/4	-.-	-.-	-.-
HY-1	HAMMER ARRESTOR	-.-	-.-	-.-	-.-
NFH-1	NON FREEZE HYDRANT	3/4	-.-	-.-	-.-
SH-1	SHOWER	1/2	1/2	-.-	-.-
SH-2	SHOWER	1/2	1/2	-.-	-.-
SS-1	SERVICE SINK	1/2	1/2	3	2
U-1	URINAL	3/4	-.-	2	1-1/2
WC-1	WATER CLOSET	1/2	-.-	4	2
WC-2	WATER CLOSET	1/2	-.-	4	2
WS-1	LAVATORY	1/2	1/2	1-1/2	1-1/2

LADD M BIRCH
No. 283402
9-27-07
LICENSED PROFESSIONAL ENGINEER
STATE OF UTAH

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ISSUE TYPE: BID SET

ISSUE DATE: AUGUST 28, 2007

DFCM PROJECT NO: 07172510
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DRAWN BY: KB
CHK'D BY: LB

SHEET TITLE
PLUMBING LEGEND

SHEET NUMBER
72510 PSSH06

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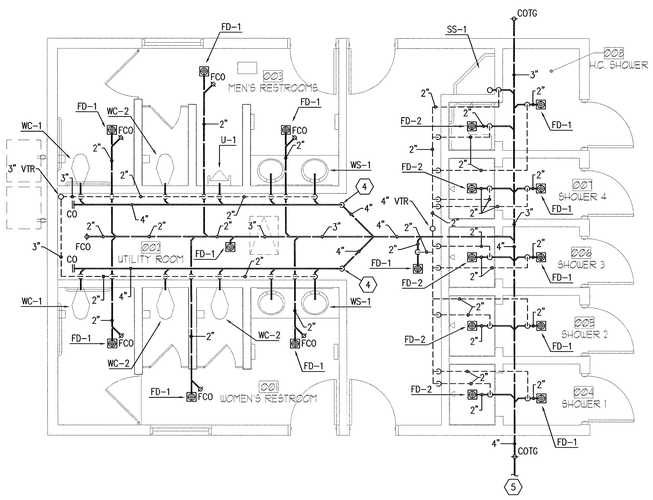
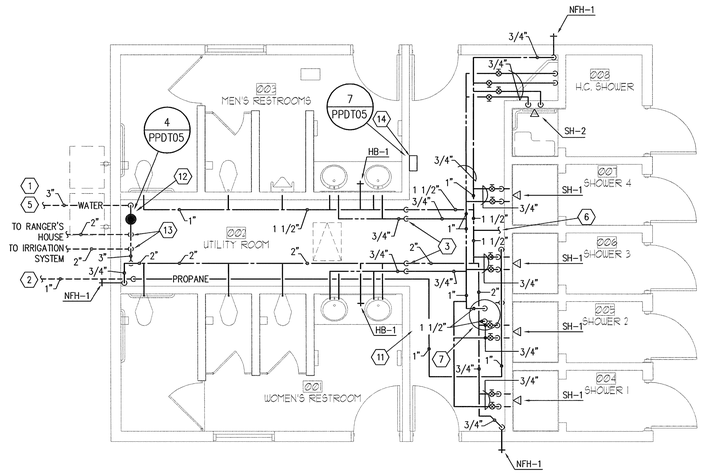


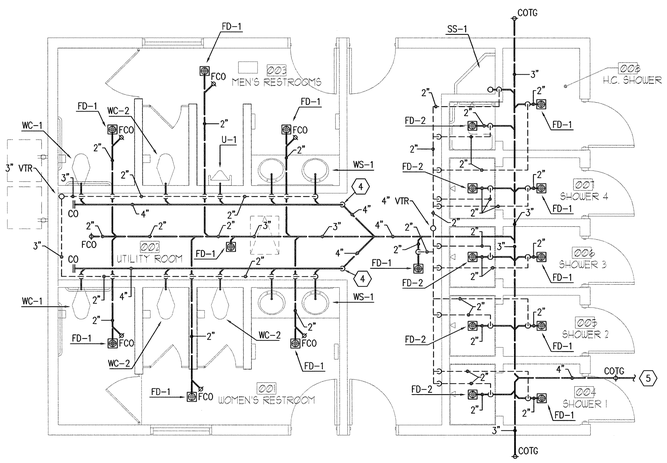
SEWER AND VENT PIPING PLAN
1/4" = 1'-0" CAMPGROUND RESTROOMS



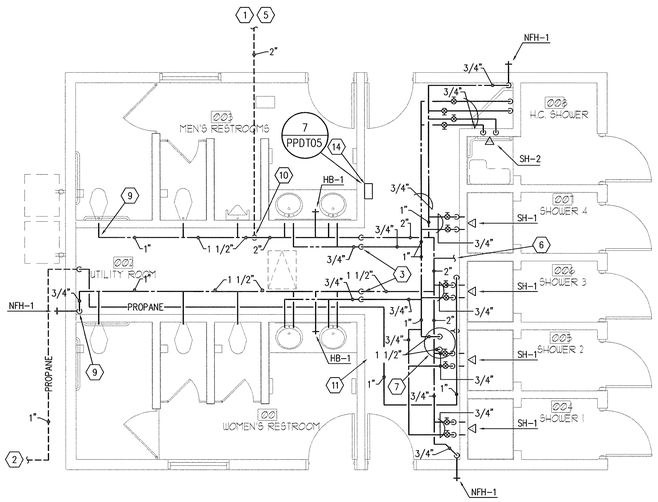
WATER AND PROPANE PIPING PLAN
SCALE: 1/4" = 1'-0" CAMPGROUND RESTROOMS

KEYED NOTES

1. CONNECT TO EXISTING WATER SYSTEM. SEE 72510 ASSP00 FOR CONTINUATION.
2. SEE 72510 ASSP00 SITE PLAN FOR CONTINUATION.
3. DROP FROM CEILING, ANCHOR TO WALL WHERE ACCESSIBLE TO FIXTURES AND MAINTENANCE.
4. DROP TO SANITARY SEWER LINE BELOW GRADE.
5. SEE 72510 ASSP00 SITE PLAN FOR CONTINUATION.
6. 1" WATER TO BOILER. SEE 72510 MPFP01 FOR BOILER LOCATION.
7. CONTRACTOR TO SEISMICALLY BRACE WATER HEATER TO STRUCTURE.
8. CONTRACTOR TO FIELD VERIFY PROPANE TANKS AND PROVIDE NECESSARY GAS COCK AND REGULATOR AS REQUIRED WHERE PROPANE ENTERS THE BUILDING.
9. CONTRACTOR TO SLOPE PIPING TO A LOW SPOT AND PROVIDE A SHUT-OFF VALVE FOR WINTER DRAIN DOWN.
10. INSTALL A SHUT-OFF VALVE AS WATER MAIN ENTERS THE BUILDING.
11. COORDINATE PIPING WITH ELECTRICAL. NO PIPING SHALL BE INSTALLED ABOVE ELECTRICAL.
12. INSTALL A BACKFLOW PREVENTOR AND A SHUT-OFF VALVE AS WATER MAIN ENTERS THE BUILDING.
13. INSTALL A SHUT-OFF VALVE ON THE MAIN WATER LINE TO THE RANGER'S HOUSE AND THE MAIN LINE TO THE PARK.
14. MOUNT ELECTRONIC VALVE SYSTEM CONTROLLER HERE.



SEWER AND VENT PIPING PLAN
1/4" = 1'-0" DAY USE RESTROOMS



WATER AND PROPANE PIPING PLAN
SCALE: 1/4" = 1'-0" DAY USE RESTROOMS

SHOWER CONTROL SYSTEM

PROVIDE AND INSTALL ACORN ENGINEERING COMPANY EVS SYSTEM, ELECTRONIC VALVE SYSTEM TO CONTROL THE SHOWERS. PROVIDE AND INSTALL A HOT AND COLD SOLENOID VALVE, EVS 2 FOR EACH SHOWER, MOUNTED IN THE UTILITY ROOM. PROVIDE AND INSTALL A PNEUMATIC PUSH BUTTON MOUNTED INSIDE EACH SHOWER. COORDINATE WITH OWNER'S REPRESENTATIVE AND ARCHITECT. PROVIDE AND INSTALL ELECTRONIC VALVE CONTROLLER WITH TRANSFORMER AND MOUNT IN THE UTILITY ROOM. INSTALL AND CONNECT PUSH BUTTONS, HOT AND COLD SOLENOID VALVES, TRANSFORMER AND ELECTRONIC VALVE CONTROLLER PER ACORN ENGINEERING'S REQUIREMENTS.

SYSTEM SHALL BE CAPABLE OF CONTROLLING EACH SHOWER INDIVIDUALLY. THE WATER METERING SHALL BE FIELD ADJUSTABLE OR CAPABLE OF ADJUSTING THE TIME LIMIT EACH SHOWER MAY OPERATE AND FLOW WATER.

PROVIDE SUBMITTALS OF ELECTRONIC VALVE SYSTEM INCLUDING EQUIPMENT AND LAYOUT OF THE SYSTEM. SHOWER CONTROL SYSTEM SHALL BE ACORN ENGINEERING OR APPROVED EQUAL. SUBMIT PRIOR APPROVALS TO ARCHITECT AND ENGINEER PRIOR TO BUILDING.

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SHEET TITLE

PLUMBING FLOOR PLAN

SHEET NUMBER

72510 PPFP01

LADD M BIRCH No. 155402 9-27-07 LICENSED PROFESSIONAL ENGINEER STATE OF UTAH

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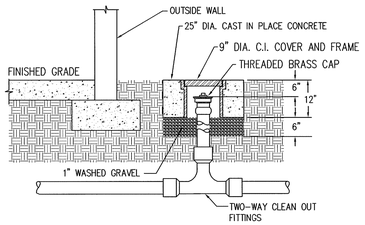
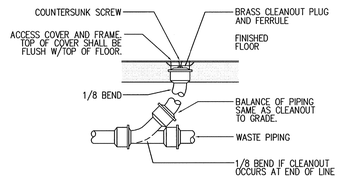
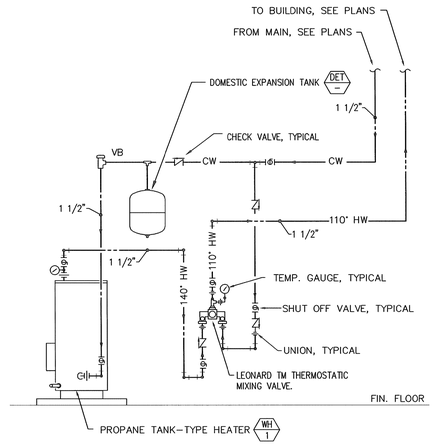


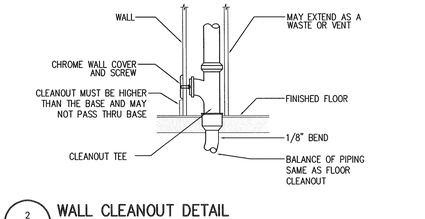
5 PPDT05 **TWO-WAY CLEAN-OUT TO GRADE DETAIL**
NO SCALE



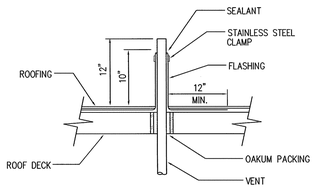
1 PPDT05 **FLOOR CLEANOUT DETAIL**
NO SCALE



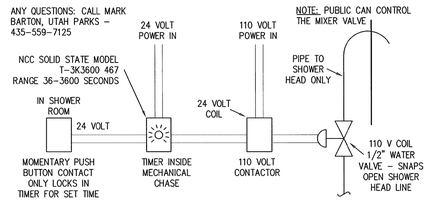
6 PPDT05 **DOMESTIC WATER HEATER PIPING SCHEMATIC**
NO SCALE



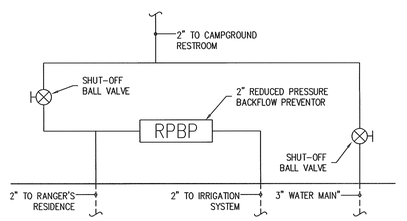
2 PPDT05 **WALL CLEANOUT DETAIL**
NO SCALE



3 PPDT05 **VENT THRU ROOF FLASHING & SLEEVING DETAIL**
NO SCALE



7 PPDT05 **SHOWER TIMER CONTROLS**
NO SCALE



4 PPDT05 **REDUCED PRESSURE BACKFLOW PREVENTOR**
NO SCALE

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Off: 435.674.4800 - Fax: 435.674.2708
SALT LAKE ST.GEORGE PHOENIX LOGAN

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Phone: (801) 538 - 3018
Fax: (801) 538 - 3267
Internet: http://www.dfcm.state.ut.us

BUILDING NAME:
NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

PROJECT TITLE:
NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET

ISSUE DATE: AUGUST 28, 2007

DFCM PROJECT NO: 07172510
CAD PROJECT NO: VBFA - 7368
CAD DWG FILE: G-100
DRAWN BY: KB
CHK'D BY: LB

SHEET TITLE
PLUMBING DETAILS

SHEET NUMBER
72510 PPDT05

LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

SINGLE LINE	DOUBLE LINE	
	W R	R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
12/12 8/8	12/12 8/8	RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
9/9 9"ø	9/9 9"ø	RECTANGULAR TO ROUND DUCT TRANSFORMATION
	R	BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
RECT. TO ø RECT. ROUND ALL	45° 90°	TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
		MANUAL VOLUME DAMPER
FD	FD	FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
FSD	FSD	COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
		FLEXIBLE DUCT CONNECTION
		FLEXIBLE DUCT
12/8	12/8	RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
12"ø	12"ø	ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
UP	UP	INCLINED RISE
DN	DN	INCLINED DROP

WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.

SINGLE LINE	DOUBLE LINE	
		POSITIVE PRESSURE DUCT – RISE
		POSITIVE PRESSURE DUCT – DROP
		NEGATIVE PRESSURE DUCT – RISE
		NEGATIVE PRESSURE DUCT – DROP
		ROUND DUCT – RISE
		ROUND DUCT – DROP
		TURNING VANES
	12X12 200	CEILING SUPPLY DIFFUSER
	20X20 200	CEILING RETURN REGISTER
	12X12 200	CEILING EXHAUST REGISTER (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
	24X10 200	SIDEWALL SUPPLY REGISTER
	24X10 200	SIDEWALL EXHAUST OR RETURN REGISTER
	12X12 200	CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
	24/24	CEILING RETURN AIR GRILE W/ SOUND BOOT

TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.

	4-WAY BLOW PATTERN
	3-WAY BLOW PATTERN
	2-WAY BLOW PATTERN
	2-WAY BLOW PATTERN
	1-WAY BLOW PATTERN
EF 1	EQUIPMENT IDENTIFICATION
1	KEYED NOTE IDENTIFICATION
T	THERMOSTAT
S	SWITCH
SD	DUCT SMOKE DETECTOR

EXHAUST FAN SCHEDULE

		FAN					MOTOR					
SYMBOL	MANUF. AND MODEL NO.	TOTAL AIR FLOW RATE (CFM)	TOT. STATIC PRESSURE DROP (IN H20)	OUTLET VELOCITY (FPM)	FAN SPEED (RPM)	FAN WHEEL DIAMETER (IN)	BHP	AMPS	MOTOR SPEED (RPM)	VOLT/PH	WEIGHT (LBS)	REMARKS
EF-1	COOK ACEB-135	1,150	0.45	963	1053	13.5	1/6	-	1750	120/1	65	1,2

1. TIMER IN UTILITY CLOSET.
2. DISCONNECT BY ELECTRICAL.

AIR SEPARATOR SCHEDULE

					FLUID			SIZE	
SYMBOL	MANUF. AND MODEL NO.	LOCATION	SYSTEM SERVED	TYPE	FLUID FLOW RATE (GAL)	WORKING FLUID	MAXIMUM FLUID PRESSURE DROP (FT)	HEIGHT/ DIA (IN)	REMARKS
AS-1	B & G R R-2	MECHANICAL ROOM	RADIANT FLOOR	TANGENTAL	32	WATER	.5	16/9.5	

BOILER SCHEDULE

					FLUID				ELECTRICAL			SIZE	
SYMBOL	MANUF. AND MODEL NO.	SERVICE	RATED INPUT CAPACITY (MBH)	RATED OUTPUT CAPACITY (MBH)	TOTAL FLUID FLOW (GPM)	ENTER/ LEAVING FLUID TEMP (DEG. F)	WORKING FLUID	MAXIMUM WATER PRESSURE DROP (FT)	AMPS	VOLT/PH	CONTROL CIRCUIT VOLT/PH	INTAKE /EXHAUST DIA. (IN)	REMARKS
B-1	LOCHINVAR KNIGHT KB-80	RADIANT FLOOR	80,000	73,000	5.9	100/130	WATER	15	0.5	120/1	24 V	3"/3"	1

1. PROPANE

EXPANSION TANK SCHEDULE

SYMBOL	MANUFACTURER & MODEL	TANK SIZE (GAL)	RELIEF VALVE (PSI)	DIA/ HEIGHT (IN)	NPTM FITTING (IN)	REMARKS
ET-1	B&G B-200	53	35	24/38.4	1	

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LICENSED PROFESSIONAL ENGINEER
LADD M BIRCH
No. 353462
9-27-07
STATE OF UTAH

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
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BUILDING NAME:
NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

PROJECT TITLE:
NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

MARK	DATE	DESCRIPTION

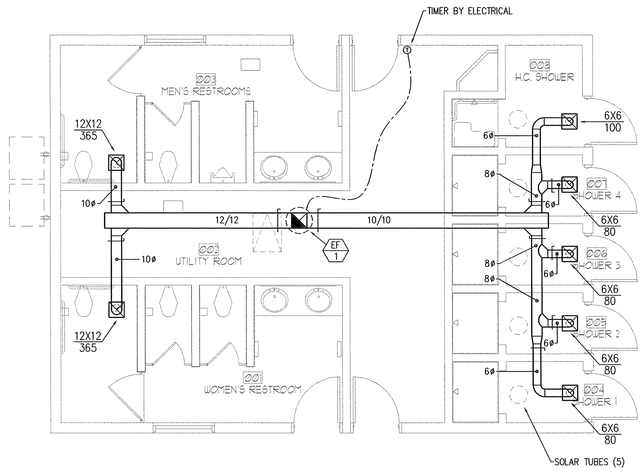
ISSUE TYPE: BID SET

ISSUE DATE: AUGUST 28, 2007

DFCM PROJECT NO: 07172510
CAD PROJECT NO: VBFA - 7368
CAD DWG FILE: G-100
DRAWN BY: KB
CHK'D BY: LB

SHEET TITLE
MECHANICAL LEGEND

SHEET NUMBER
72510 MHSH06



MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

MAIN LEVEL

N

State of Utah
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CAD DWG FILE: G-100
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CHK'D BY: LB

SHEET TITLE

MECHANICAL
FLOOR
PLAN

SHEET NUMBER

72510 MSFP01

LICENSED PROFESSIONAL ENGINEER
LADD M
BIRCH
No. 353492
9-27-07
STATE OF UTAH

VAN BOERUM
& FRANK
ASSOCIATES INC.
1070 West 1600 South Ste #104
St. George, Utah 84770
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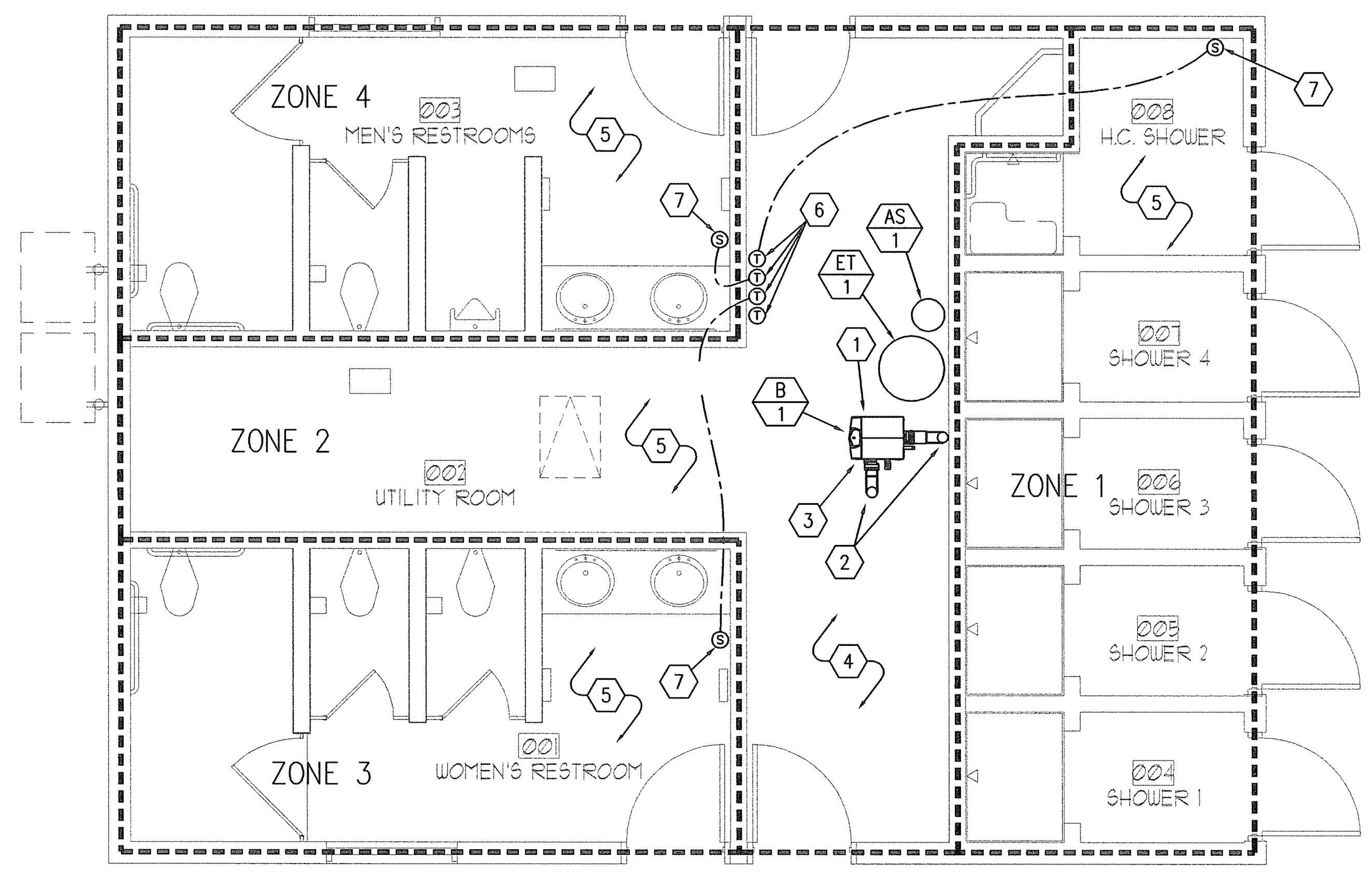
SALT LAKE ST.GEORGE PHOENIX LOGAN

KEYED NOTES

1. THE CONTRACTOR SHALL HAVE THEIR SUPPLIER LAYOUT THE RADIANT FLOOR HEATING USING A CONDENSING PROPANE BOILER WITH ASSOCIATED VALVES, EXPANSION TANK, AIR SEPERATOR AND PIPING, ETC. THE INFORMATION ON THIS SHEET IS SCHEMATIC AND IS REFERENCE FOR THE SUPPLIER TO USE IN THEIR DESIGN. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, TO THE ENGINEER, OF THE RADIANT FLOOR HEATING FOR APPROVAL PRIOR TO ORDERING OR PURCHASING EQUIPMENT.
2. 4" CPVC BOILER VENT – CONTRACTOR TO INSTALL CPVC PIPE TO THE EXHAUST SIDE OF BOILER PER MANUFACTURERS RECOMMENDATION. COORDINATE WITH THE BOILER.
3. CONTRACTOR TO PIPE CONDENSATE DRAIN TO NEAREST FLOOR DRAIN.
4. THE CONTRACTOR IS TO INSTALL THE PIPING FOR THE RADIANT FLOOR SYSTEMS AS ORGANIZED AS POSSIBLE TO MAINTAIN EGRESS THROUGH THE ROOM.
5. 3/8" PEX AT 14" O.C.
6. TEKMAR 541 THERMOSTAT FOR RADIANT HEAT ZONE CONTROL.
7. REMOTE SENSOR.

RADIANT FLOOR HEATING

ZONE 1	SHOWER – 12,000 BTUH
ZONE 2	UTILITY – 17,000 BTUH
ZONE 3	WOMEN'S RESTROOM – 10,000 BTUH
ZONE 4	MEN'S RESTROOM – 10,000 BTUH



RADIANT HEATER PLAN
SCALE: 1/4" = 1'-0" MAIN LEVEL

LICENSED PROFESSIONAL ENGINEER LADD M BIRCH No. 353492 9-27-07 STATE OF UTAH

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CAD DWG FILE: G-100
DRAWN BY: KB
CHK'D BY: LB

SHEET TITLE
MECHANICAL RADIANT HEATER PLAN

SHEET NUMBER
72510 MPFP01

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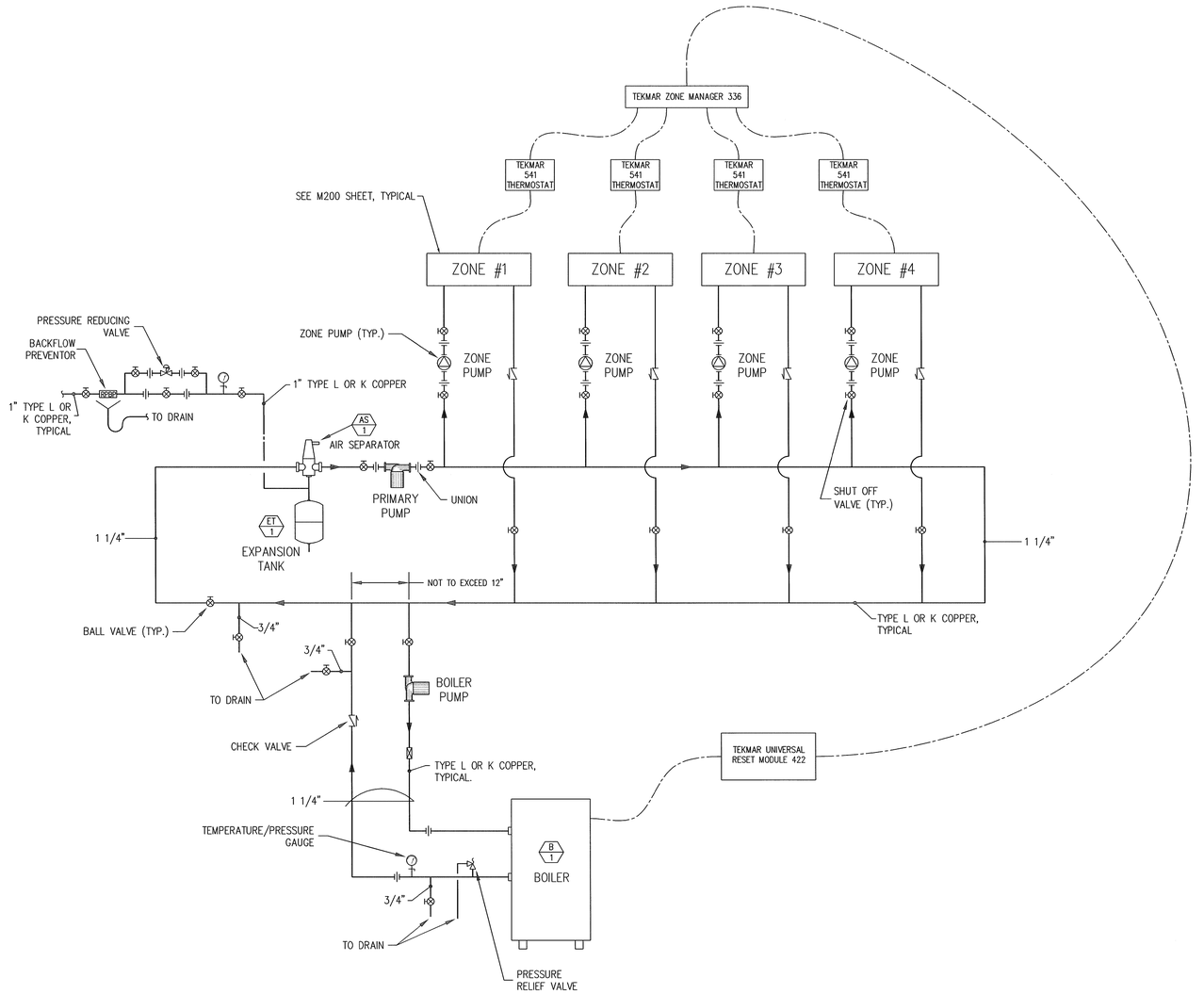

RADIANT FLOOR PIPING SCHEMATIC

SCALE: NONE

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DFCM PROJECT NO: 07172510
CAD PROJECT NO: VBFA - 7368
CAD DWG FILE: G-100
DRAWN BY: KB
CHK'D BY: LB

LADD M BIRCH No. 353482 9-27-07 LICENSED PROFESSIONAL ENGINEER STATE OF UTAH

SHEET TITLE

RADIANT FLOOR PIPING SCHEMATIC

SHEET NUMBER

72510 MSQP06

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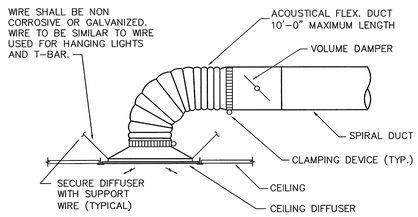
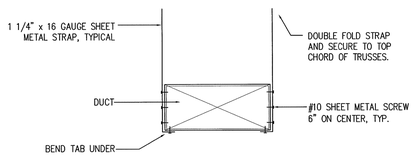
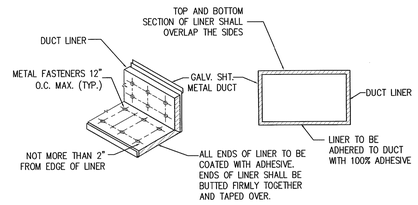


8 MHDT05 **CEILING DIFFUSER**
NO SCALE

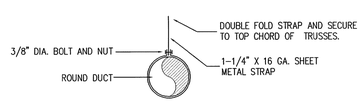


NOTE:
USE SPECIFIED SPACING AND NOT LESS THAN ONE SUPPORT PER BRANCH.

4 MHDT05 **RECTANGULAR DUCT SUPPORT DETAIL**
NO SCALE

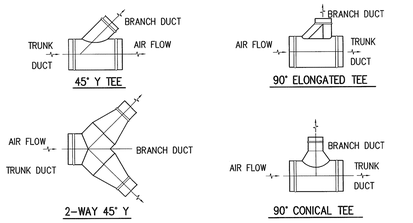


1 MHDT05 **DUCT LINER DETAIL**
NO SCALE

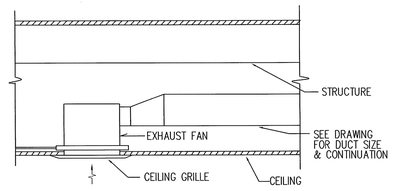


NOTE:
USE SPECIFIED SPACING AND NOT LESS THAN ONE SUPPORT PER BRANCH.

5 MHDT05 **ROUND DUCT SUPPORT DETAIL**
NO SCALE

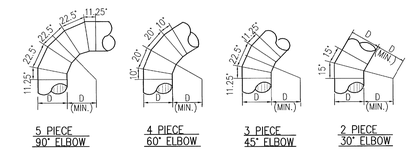


2 MHDT05 **ROUND DUCT BRANCH TAKE-OFF DETAILS**
NO SCALE

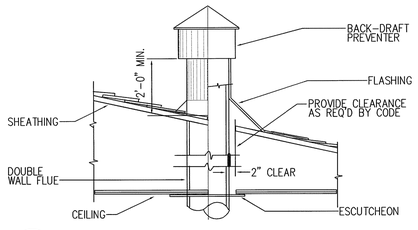


9 MHDT05 **CONCENTRIC VENT DETAIL**
NO SCALE

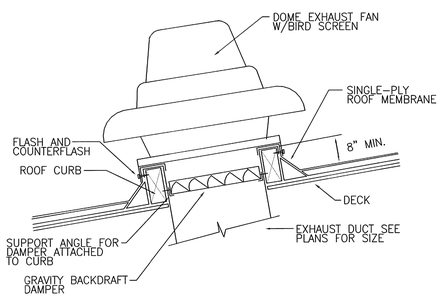
6 MHDT05 **CEILING EXHAUST FAN DETAIL**
NO SCALE



3 MHDT05 **ROUND DUCT ELBOW DETAILS**
NO SCALE



10 MHDT05 **FLUE THRU ROOF DETAIL**
NO SCALE



7 MHDT05 **EXHAUST FAN DETAIL**
NO SCALE

COMcheck Software Version 3.4.0

Envelope Compliance Certificate

2006 IECC
Report Date: 09/27/07
Data filename: G:\Energy Code Software\COMcheck\Projects\7368 Otter Creek Restroom.cck

Section 1: Project Information

Project Title: Otter Creek Restrooms

Construction Site:	Owner/Agent:	Designer/Contractor:
Antimony, UT 84712	Campbell and Associates Architects 46 North 200 East St. George, UT 84770 (435) 628.5969	Van Boerum and Frank Associates 1070 West 1600 South Suite #104 St. George, UT 84770 (435) 674.4800

Section 2: General Information

Building Location (for weather data):	**Antimony, Utah**
Climate Zone:	**5b**
Heating Degree Days (base 65 degrees F):	**6714**
Cooling Degree Days (base 50 degrees F):	**2121**
Project Type:	**New Construction**
Vertical Glazing / Wall Area Pct.:	**4%**

Activity Type(s)	Floor Area
Warehouse	919

Section 3: Requirements Checklist

Envelope PASSES: Design 30% better than code

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: Metal Building, Standing Seam	919	0.0	38.0	0.029	0.065
Exterior Wall 1: Concrete Block 8", Partially Grouted, Cells Insulated,Light Density, Furring: None	549	---	0.0	0.310	0.090
Window 1: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC: 0.62	24	---	---	0.350	0.550
Door 1: Insulated Metal, Swinging	189	---	---	0.140	0.700
Floor 1: Slab-On-Grade Heated	122	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- ☐ 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- ☐ 2. Windows, doors, and skylights certified as meeting leakage requirements.
- ☐ 3. Component R-values & U-factors labeled as certified.
- ☐ 4. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- ☐ 5. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- ☐ 6. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers.

- ☐ 7. Cargo doors and loading dock doors are weather sealed.
- ☐ 8. Recessed lighting fixtures are: (i) Type IC rated and sealed or gasketed; or (ii) installed inside an appropriate air-tight assembly with a 0.5 inch clearance from combustible materials and with 3 inches clearance from insulation material.
- ☐ 9. Building entrance doors have a vestibule and equipped with closing devices.
  Exceptions:
  Building entrances with revolving doors.
  Doors that open directly from a space less than 3000 sq. ft. in area.
- ☐ 10. Vapor retarder installed.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2006 IECC requirements in COMcheck Version 3.4.0 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title Signature Date 9/27/07

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BUILDING NAME:
NEW OTTER CREEK RESTROOMS
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UTAH

PROJECT TITLE:
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MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET

ISSUE DATE: AUGUST 28, 2007

DFCM PROJECT NO: 07172510
CAD PROJECT NO: VBFA - 7368
CAD DWG FILE: G-100
DRAWN BY: KB
CHK'D BY: LB

SHEET TITLE
MECHANICAL DETAILS AND REPORTS

SHEET NUMBER
72510 MHDT05

LICENSED PROFESSIONAL ENGINEER
LADD M BIRCH
No. 855102
9-27-07
STATE OF UTAH

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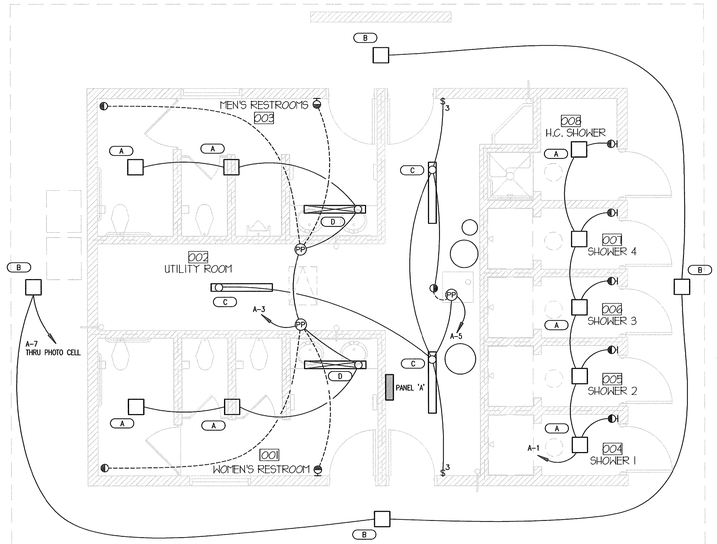
SHEET KEYNOTES

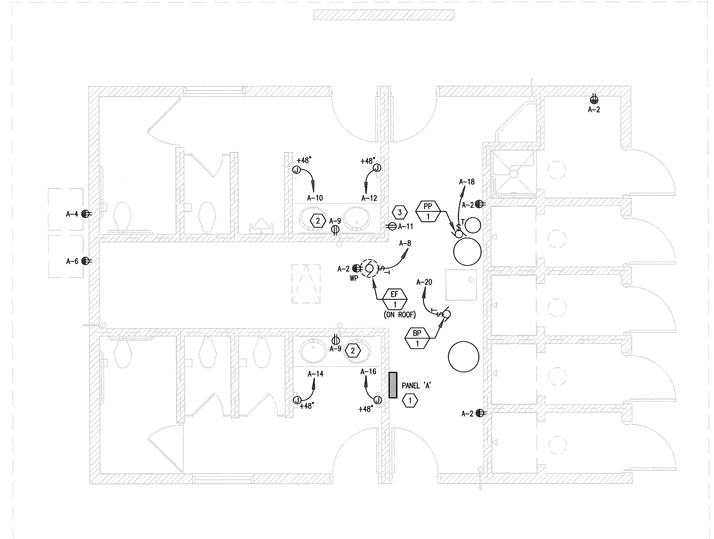
1. COORDINATE EXACT LOCATION AND ROUTING OF SERVICE ENTRANCE CONDUITS AND CONDUCTORS FOR EACH BUILDING WITH CIVIL UTILITY PLANS PRIOR TO BID. INCLUDE ALL COSTS IN BID. VERIFY LOCATION OF NEMA 3R FUSED DISCONNECT INDICATED ON ONE LINE DIAGRAM WITH ARCHITECT PRIOR TO ROUGH-IN.
2. COORDINATE EXACT LOCATION AND MOUNTING REQUIREMENTS OF RECEPTACLE FOR SINK SENSORS WITH SINK SHOP DRAWINGS PRIOR TO ROUGH-IN. PROVIDE GFI CIRCUIT BREAKER IN PANEL 'A' IN LIEU OF A GFCI RECEPTACLE. FOR THIS APPLICATION.
3. PROVIDE RECEPTACLE FOR CONNECTION OF ELECTRONIC VALVE SYSTEM. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.



PLAN NORTH

LIGHTING PLAN
1/4"=1'-0"

0 2' 4' 8'



PLAN NORTH

POWER PLAN
1/4"=1'-0"

0 2' 4' 8'

NOTE:

COORDINATE RECONNECTION OF EXISTING ELECTRICAL SERVICES FROM EACH RESTROOM BUILDING TO ADJACENT OUT BUILDINGS. FIELD VERIFY EXACT LOCATIONS ROUTING AND SIZES OF CONDUIT AND CONDUCTIONS. PROVIDE CIRCUIT BREAKERS IN PANEL 'A' AS REQUIRED FOR OUT BUILDING CIRCUITS. FIELD VERIFY EXACT CONDITIONS AND REQUIREMENTS PRIOR TO BID AND INCLUDE ALL COSTS IN BID.

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BUILDING NAME:

NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

PROJECT TITLE:

NEW OTTER CREEK RESTROOMS
PIUTE COUNTY
UTAH

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET

ISSUE DATE: SEPTEMBER 27, 2007

DFCM PROJECT NO: 07172510
CAD PROJECT NO: 07020
CAD DWG FILE: G-100
DRAWN BY: SR
CHK'D BY: LR

SHEET TITLE

LIGHTING AND POWER PLANS

SHEET NUMBER

72510ESFP01

LICENSED PROFESSIONAL ENGINEER
No. 4816
GARY W. MESKER
STATE OF UTAH

COMcheck Software Version 3.4.1
Lighting and Power Compliance Certificate

90.1 (2004) Standard

Report Date: 09/27/07
Data filename: S:\2007\334a\Lighting\Untitled.cck

Section 1: Project Information

Project Title: NEW OTTER CREEK RESTROOMS

Construction Site: PIUTE COUNTY
Owner/Agent:
Designer/Contractor:

Section 2: General Information

Building Use Description by: Activity Type
Project Type: New Construction

Activity Type(s)	Floor Area
Common Space Types:Restrooms	920

Section 3: Requirements Checklist

Interior Lighting:

☑ 1. Total actual watts must be less than or equal to total allowed watts.

Allowed Watts	Actual Watts	Complies
828	660	YES

☑ 2. Exit signs 5 Watts or less per side.

Exterior Lighting:

☑ 3. Comply with Sections 9.4.4 and 9.4.5 of 90.1-2004 and attach documentation.

Controls, Switching, and Wiring:

☑ 4. Independent manual or occupancy sensing controls for each space (remote switch with indicator allowed for safety or security).

☐ 5. Occupant sensing control in class rooms, conference/meeting rooms, and employee lunch and break rooms.
Exceptions:
Spaces with multi-scene control; shop classrooms, laboratory classrooms, and preschool through 12th grade classrooms.

☐ 6. Automatic shutoff control for lighting in >5000 sq.ft buildings by time-of-day device, occupant sensor, or other automatic control.
Exceptions:
24 hour operation lighting; patient care areas; where auto shutoff would endanger safety or security.

☐ 7. Master switch at entry to hotel/motel guest room.

☐ 8. Separate control device for display/accent lighting, case lighting, task lighting, nonvisual lighting, lighting for sale, and demonstration lighting.

☑ 9. Photocell/astronomical time switch on exterior lights.
Exceptions:
Covered vehicle entrance/exit areas requiring lighting for safety, security and eye adaptation.

☐ 10. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
Exceptions:
Electronic high-frequency ballasts;
Luminaires not on same switch;
Recessed luminaires 10 ft. apart or surface/pendant not continuous;

Luminaires on emergency circuits.

Voltage Drop:

☐ 11. Feeder conductors have been designed for a maximum voltage drop of 2 percent.

☐ 12. Branch circuit conductors have been designed for a maximum voltage drop of 3 percent.

Section 4: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 90.1 (2004) Standard requirements in COMcheck Version 3.4.1 and to comply with the mandatory requirements in the Requirements Checklist.

Lawrence Rember [signature] 9-27-07
Name - Title Signature Date

Section 5: Post Construction Compliance Statement

COMcheck Software Version 3.4.1
Lighting Application Worksheet

90.1 (2004) Standard

Report Date:
Data filename: S:\2007\334a\Lighting\Untitled.cck

Section 1: Allowed Lighting Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
Common Space Types:Restrooms	920	0.9	828
		Total Allowed Watts =	828

Section 2: Actual Lighting Power Calculation

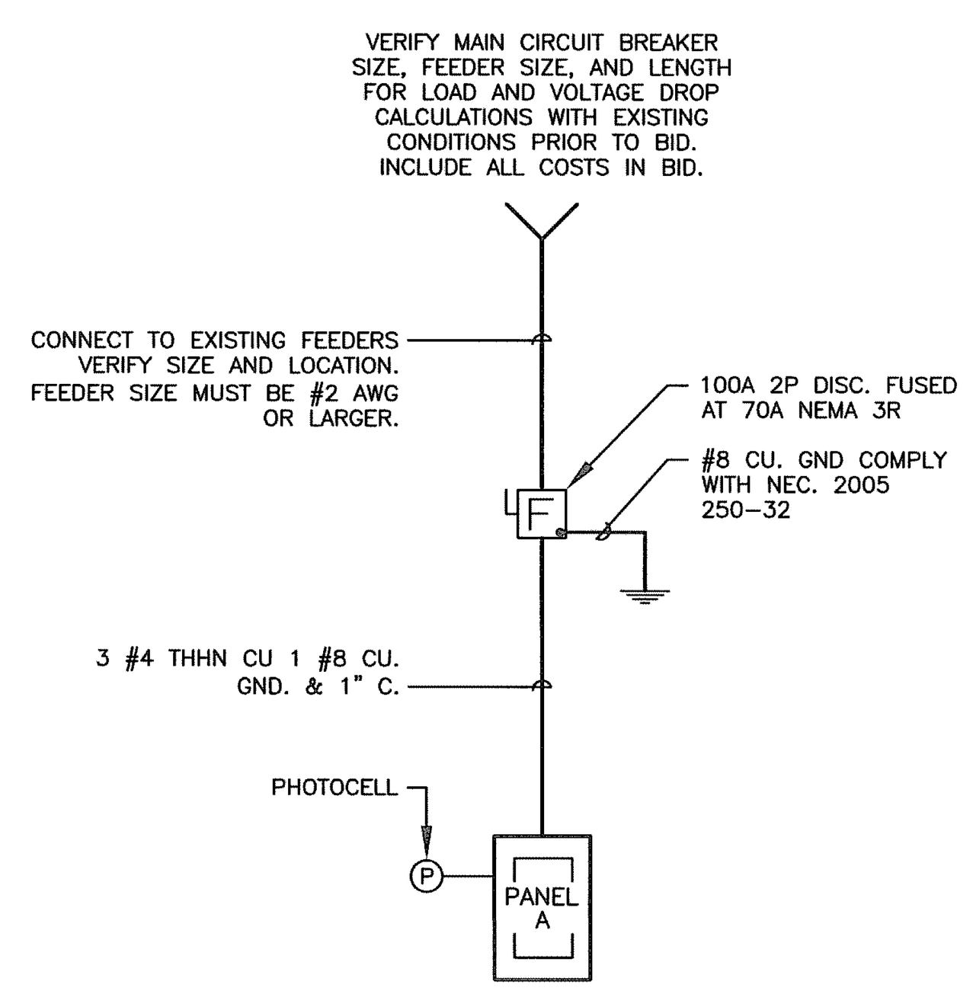
A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Common Space Types:Restrooms (920 sq.ft.)				
Compact Fluorescent 1: A: SUFACE MOUNTED VANDEL RESISTANT / Triple 4-pin 42W / Electronic	1	9	50	450
Linear Fluorescent 1: C: GENERAL PURPOSE STRIP LIGHT / 48" T8 32W (Super T8) / Electronic	2	3	70	210
			Total Actual Watts =	660

Section 3: Compliance Calculation

If the Total Allowed Watts minus the Total Actual Watts is greater than or equal to zero, the building complies.

Total Allowed Watts = 828
Total Actual Watts = 660
Project Compliance = 168

Lighting PASSES: Design 20% better than code



1 ONE-LINE DIAGRAM
NO SCALE

EQUIPMENT SCHEDULE

UNIT #	FUNCTION	LOAD	VOLT	PHASE	FULL LOAD AMPS	CONDUIT SIZE	WIRES: NO. SETS	WIRES: NO.	WIRES: SIZE	WIRES: EQUIP. GND (1)	OCPD: TYPE	OCPD: AMPS	REF. NOTES: STARTER	REF. NOTES: DISCONNECT	REF. NOTES: OTHER	REMARKS
B-1	BOILER	.5 FLA	120	1	0.50	3/4"	1	2	12	12	CB	15	4A			
BP-1	BOILER PUMP	1/2 HP	120	1	9.80	3/4"	1	2	12	12	CB	20	4A			
EF-1	EXHAUST FAN	1/6 HP	120	1	4.40	3/4"	1	2	12	12	CB	20	4A			
PP-1	PRIMARY BOILER PUMP	1/2 HP	120	1	9.80	3/4"	1	2	12	12	CB	20	4A			

NOTES:
1. NON-FUSED DISCONNECT SWITCH
2. FUSED DISCONNECT SWITCH
3. BREAKER IN ENCLOSURE
4. MANUAL STARTER W/THERMAL OVERLOAD
5. MAGNETIC STARTER
6. MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION
7. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION
8. MAGNETIC STARTER/BREAKER COMBINATION
9. VARIABLE FREQUENCY DRIVE
10. REDUCED VOLTAGE STARTER
11. DIRECT CONNECTION
12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.
13. TWO-SPEED STARTER, COORDINATE W/MOTOR TYPE

A. FURNISHED, INSTALLED, AND CONNECTED UNDER DIVISION 16
B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIVISION 16.
C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED UNDER DIVISION 16.
D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.

CB = CIRCUIT BREAKER – THERMAL MAGNETIC
CKW = CHILLER KILOWATTS

NOTE 1: PER 250.122(A), EQUIPMENT GROUND IS NOT REQUIRED TO BE LARGER THAN PHASE CONDUCTOR.

FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER	VOLTS	LAMPS
A	SURFACE MOUNTED VANDEL RESISTANT WITH GASKETED LENS	LUMINAIRE: SWP1212HO-1PLT42-120-CP-WHT	120	(1) CF42/835
B	SURFACE MOUNTED VANDEL RESISTANT WITH GASKETED LENS AND LOW TEMP BALLAST	LUMINAIRE: SWP1212HO-1PLT42-120-CP-BRZ	120	(1) CF42/835
C	GENERAL PURPOSE STRIP WITH WIRE GUARD	COLUMBIA:CS4-232-E8LHUNV-CSWG4	120	(2) F032/835
D	SURFACE MOUNTED VANDEL RESISTANT LINEAR FLUORESCENT WITH 90 MINUTE BATTERY BACK UP	LUMINAIRE: VPF84-232-LH-120-CP-WHT-EMB50	120	(2) F032/835

PANELBOARD SCHEDULE

PANEL A TYPE NQOD 120/240 VOLTS 1 PH 3 W

MOUNTING: ___ FLUSH; X SURFACE
DIMENSIONS: 20 W; 5.8 D (in.); ___ H
LOCATION UTILITY RM.
AMP 100
MAINS: X LUGS; ___ BREAKER; ___ SUBFEED LUGS; ___ ISO GROUND; ___ 200% NEUTRAL

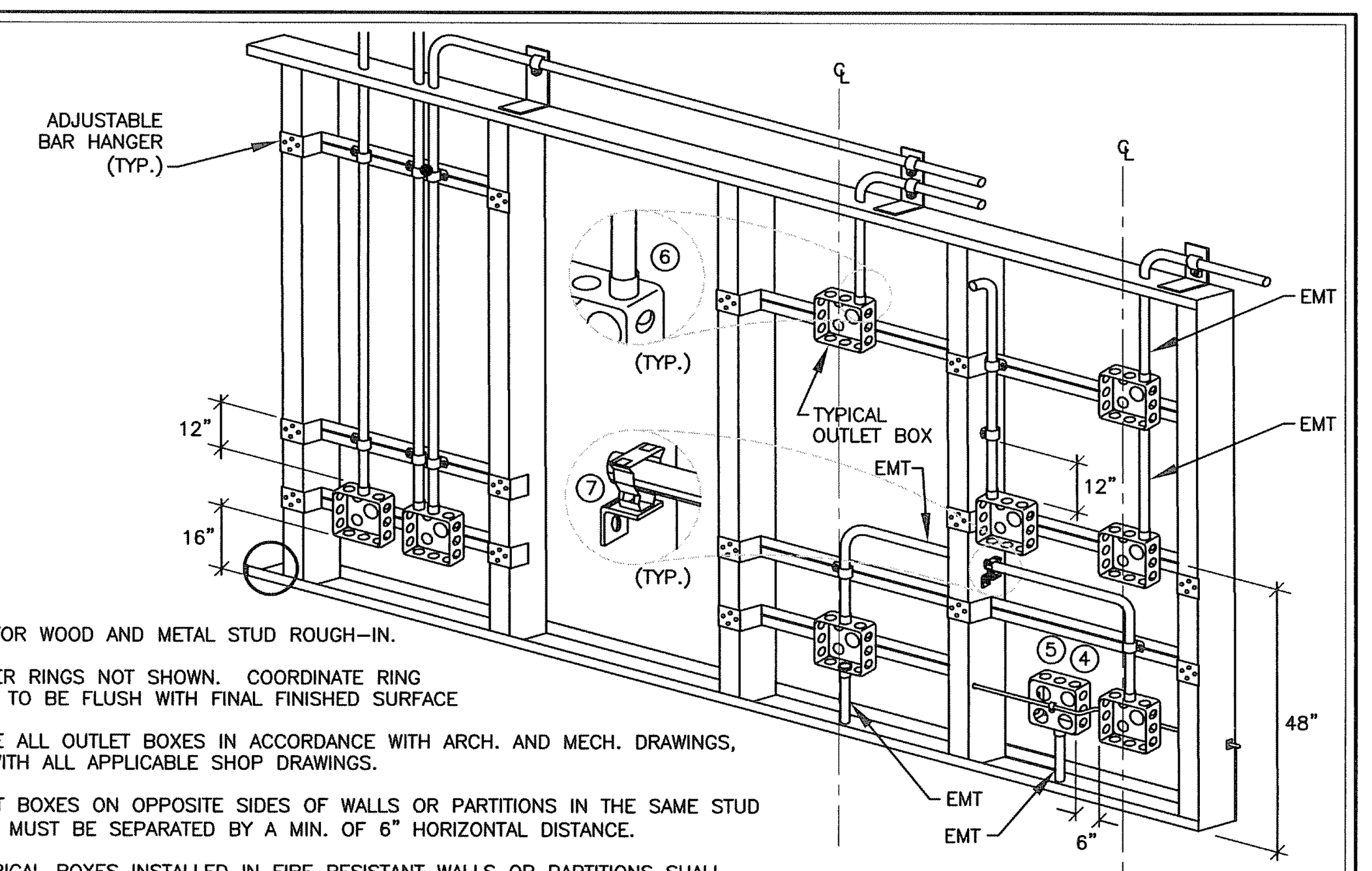
BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	L. PHASE LOAD A	L. PHASE LOAD B	R. PHASE LOAD A	R. PHASE LOAD B	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
SHOWER LIGTING	20	1	12	1	230		720		2	20	1	12	RECEPTACLES
RESTROOM LIGHITNG	20	1	12	3		320		1000	4	20	1	12	VENDING MACHINE
UTILITY ROOM LIGHTING	20	1	12	5	210		1000		6	20	1	12	VENDING MACHINE
EXTERIOR LIGHTING	20	1	12	7		180		500	8	20	1	12	EF-1 EXHAUST FAN
* SENSOR SINKS	20	1	12	9	360		2300		10	30	1	10	HAND DRYERS
AUTOMATIC VALVE	20	1	12	11		200		2300	12	30	1	10	HAND DRYERS
SPACE ONLY				13			2300		14	30	1	10	HAND DRYERS
SPACE ONLY				15				2300	16	30	1	10	HAND DRYERS
SPACE ONLY				17					18	20	1		PP-1 PRIMARY PUMP
SPACE ONLY				19					20	20	1		BP-1 BOILER PUMP
SPACE ONLY				21					22	20	1		SPARE
SPACE ONLY				23					24	20	1		SPARE
SPACE ONLY				25					26	20	1		SPARE
SPACE ONLY				27					28	20	1		SPARE
SPACE ONLY				29					30	20	1		SPARE
					800	700	6320	6100					
					7120	6800	TOTAL						
					59.33	56.67	AMPS/PHASE						

CONNECTED LOAD TOTAL 13920 W

EQUIP RATING 10,000 AMPS RMS SYM.

* PROVIDE GFCI BREAKER



NOTES:
1. TYP. FOR WOOD AND METAL STUD ROUGH-IN.
2. PLASTER RINGS NOT SHOWN. COORDINATE RING DEPTH TO BE FLUSH WITH FINAL FINISHED SURFACE
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCH. AND MECH. DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MIN. OF 6" HORIZONTAL DISTANCE.
5. ELECTRICAL BOXES INSTALLED IN FIRE RESISTANT WALLS OR PARTITIONS SHALL COMPLY WITH IBC 711.3.2 (24" SEPARATION ON OPPOSITE SIDES.)
6. INSULATED THROAT EMT CONNECTOR.
7. CADDY FASTENER, THROUGH STUD CABLE/CONDUIT SUPPORT 'FB12P'.

DIAGRAM H004 TYPICAL ROUGH IN REQUIREMENTS
NTS

ELECTRICAL SYMBOL SCHEDULE

1. SEE FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.
2. HEIGHT MEASURED TO TOP LINE OF THE BOX FROM THE FINISH FLOOR.
3. REFER TO DRAWINGS FOR DIRECTIONAL ARROWS.
4. SUBSCRIPT KEYS SWITCH TO FIXTURES CONTROLLED.
5. NEMA TYPE 'ND' NON-FUSED UNLESS NOTED 'F' (FUSED). USE 'HD' 480 V.
6. HEIGHT TO BE THE LOWER OF EITHER 80" A.F.F. OR 6" BELOW CEILING.
7. PROVIDE H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED.
8. DOUBLE ARROWS DENOTE A DOUBLE FACE UNIT.
9. COORDINATE WITH MILLWORK SHOP DRAWINGS AND ELEVATIONS FOR HEIGHT.
10. SUBSCRIPT DENOTES NEMA CONFIGURATION.
11. HEIGHT MEASURED TO BOTTOM OF THE BOX FROM FINISH FLOOR.

STANDARD MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS

SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
	ONE CIRCUIT, TWO WIRE HOME RUN TO PANEL		
	2 CIRCUIT, 3 WIRE, COMMON NEUTRAL HOME RUN		
	3 CIRCUIT, 4 WIRE, COMMON NEUTRAL HOME RUN		
	CONDUIT RUN CONCEALED IN WALL OR CEILING		
	CONDUIT RUN CONCEALED IN FLOOR OR GROUND		
	CONDUIT UP		
	CONDUIT DOWN		
	CONDUIT STUB LOCATION	CAP CONDUIT	
	CEILING LIGHT FIXTURE	CEILING	1.
	WALL LIGHT FIXTURE	AS NOTED	1.
	RECESSED DOWNLIGHT FIXTURE	CEILING	1.
	FLUORESCENT LIGHT FIXTURE	AS NOTED	1
	FLUORESCENT EGRESS LIGHT FIXTURE	AS NOTED	1.
	CEILING MOUNTED EXIT LIGHT	CEILING	1.3.8.
	WALL MOUNTED EXIT LIGHT	AS NOTED	1.3.8.
	WALL MOUNTED EMERGENCY EXIT/EGRESS LIGHT	AS NOTED	1.3.8.
	WALL MOUNTED EMERGENCY EGRESS LIGHT	AS NOTED	1.3.8.
$	SINGLE POLE SWITCH	+4'-0"	2.
$a	SINGLE POLE SWITCH	+4'-0"	4. 2.
$3	THREE-WAY SWITCH	+4'-0"	2.
	DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
A	DUPLEX RECEPTACLE		9.
W	ELECTRIC WATER COOLER RECEPTACLE		SEE DIAGRAM
WP	WEATHERPROOF RECEPTACLE	+24" OR AS NOTED	2. 9.
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	FOURPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
J	JUNCTION BOX ('F' IN FLOOR)	AS NOTED	
	MOTOR OUTLET	TO SUIT EQUIP.	
P	PHOTO-ELECTRIC CONTROL	AS NOTED	TORK 2000A
TC	TIME CLOCK	+5'-0"	2.
F	FUSED DISCONNECT SWITCH	+5'-0"	5.
$T	MANUAL STARTER THERMAL OVERLOAD SWITCH WITH PILOT LIGHT	+4'-0"	2.
	PANEL BOARD	TOP AT +6'-0"	
	MAIN DISTRIBUTION PANEL		
	TELEPHONE TERMINAL BOARD		
842	ARCHITECTURAL ROOM NUMBER		
A	LIGHT FIXTURE (LETTER DESIGNATES TYPE)		
EQ 34	EQUIPMENT NUMBER		

GENERAL NOTES

1. CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
2. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED UNDER DIVISION 15 WITH APPROVED MECHANICAL SHOP DRAWINGS BEFORE BEGINNING ROUGH IN.
4. SEE SPECIFICATIONS FOR REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
5. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
6. SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
7. FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
8. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THRU ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN OTHER AREAS.
9. ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH MASONRY CONTRACTOR.
10. ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED.
11. CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 165' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH MINIMUM #10 CONDUCTORS.

DEMOLITION NOTES

1. COORDINATE ALL NEW ELECTRICAL EQUIPMENT REQUIREMENTS AND MAKE CONNECTION TO EXISTING SYSTEMS. THIS INCLUDES LIGHTING, POWER, SIGNAL, RACEWAY AND OTHER SYSTEMS INCLUDED UNDER DIVISION 16.
2. RELOCATE, REWIRE AND/OR RECONNECT EXISTING ELECTRICAL DEVICES AND/OR EQUIPMENT THAT FOR ANY REASON OBSTRUCTS CONSTRUCTION.
3. CONCEAL ALL RACEWAY AND WIRING IN EXISTING WALLS, CEILINGS, FLOORS, ETC. EXCEPT WHERE THE USE OF SURFACE METAL RACEWAYS (E.G. WIRE MOLD) IS INDICATED ON DRAWINGS OR IN SPEC.
4. LEAVE ALL EXISTING EQUIPMENT, IN PORTIONS OF THE BUILDING NOT BEING REMODELED, IN WORKING CONDITION. RESTORE ALL INTERRUPTED BRANCH CIRCUITS, FEEDERS, ETC. TO WORKING CONDITION.
5. EXISTING RACEWAYS MAY BE REUSED (IN PLACE) WHERE POSSIBLE, AND WHERE IN COMPLIANCE WITH THE SPECIFICATIONS AND THE INTENT OF THE CONTRACT DOCUMENTS. INSURE INTEGRITY OF EXISTING RACEWAY BEFORE REUSE.
6. REMOVE ALL RACEWAYS, CONDUCTORS, BOXES, DEVICES, EQUIPMENT, ETC. THAT ARE NOT TO BE REUSED.
7. REMOVE EXISTING LIGHT FIXTURES WHICH ARE NOT TO BE REUSED, PLACE IN CARTON, LABEL APPROPRIATELY, AND RETURN TO OWNER, OR PROPERLY DISPOSE OF FIXTURES THAT THE OWNER CHOOSES NOT TO KEEP.
8. DO NOT PENETRATE STRUCTURAL ELEMENTS OF FLOORS, WALLS, CEILINGS, ROOFS, ETC.
9. DISCONNECT AND RECONNECT ANY/ALL FIXTURES, DEVICES, EQUIPMENT, ETC. REQUIRED FOR PROPER COMPLETION OF THE WORK.

LICENSED PROFESSIONAL ENGINEER No. 4816 GARY W. MESKER STATE OF UTAH [signature]

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BUILDING NAME:
NEW OTTER CREEK RESTROOMS PIUTE COUNTY UTAH

PROJECT TITLE:
NEW OTTER CREEK RESTROOMS PIUTE COUNTY UTAH

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID SET
ISSUE DATE: SEPTEMBER 27, 2007
DFCM PROJECT NO: 07172510
CAD PROJECT NO: 07020
CAD DWG FILE: G-100
DRAWN BY: SR
CHK'D BY: LR

SHEET TITLE
SYMBOLS, NOTES AND SCHEDULES

SHEET NUMBER
72510ESSH06